LOCATION/OFFICE : { PK2 4R13 }

TO: Julie Anne Watko
SUBJECT : Prior art online search
DATE: April 4, 2003

Dear Julie Anne Watko

Please find attached the search results for 09826173. I used the search strategy I emailed to you to edit. You approved the search. I searched the standard Dialog files, IBM TDBs and the internet.

If you would like a re-focus please let me know.

Thank you.

Pamela Reynolds
EIC 2600 Team Leader
306-0255
3C03

04 8 9 c 2 3

Access DB# ___

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Julie Anne Watko Examiner #: 77602 Date: 03/25/2003
Art Unit: 2652 Phone Number 305-1711 Serial Number: 09826173
Mail Box and Bldg Room Location: SPI-4B15 Results Format Preferred (circle): PAPER DISK E-MAIL
... Box near 402

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Heat Assisted Magnetic Recording Disk Drives

Inventors (please provide full names): Sivadasan Kodikkumathukulangara; Guo, Guoxiao

Earliest Priority Filing Date: 9/26/2000

"For Sequence Searches Only" Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

A C-shaped microactuator with ends that approach & move away from each other

Piezoelectric or electromagnetic or ferromagnetic

Spinning stage electromagnet

03-26-03 A07:24 IN

****

03-25-03 P02:53

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher Pamela Reynolds	NA Sequence (#)	STN
Searcher Phone #: 306-0255	AA Sequence (#)	Dialog ✓
Searcher Location: PK2 3C13	Structure (#)	Questel/Orbit
Date Searcher Picked Up: 4-3-03	Bibliographic ✓	Dr Link /
Date Completed 4-4-03	Litigation	Lexis/Nexis
Searcher Prep & Review Time 90	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet ✓ /
Online Time: 90	Other	Other (specify) 1666 IBM TDB

PTO-1590 (8-01)

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File 348:EUROPEAN PATENTS 1978-2003/Mar W04
         (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030327,UT=20030320
         (c) 2003 WIPO/Univentio
? ds

Set     Items   Description
S1        469   MICROACTUATOR? OR MICRO()ACTUATOR?
S2         36   C()SHAP?(S)(PIEZOELECTRIC OR PIEZO()ELECTRIC)
S3          0   S2(5N)BIMORPH?
S4       2875   ENDS(S)APPROACH?(S)(MOV? OR OPPOSED OR SPACED OR SEPARAT? -
             OR APART)
S5      83436   ELECTROMAGNET?
S6      14673   FERROMAGNET?
S7          5   SPLIT()RING(10N)S5
S8        313   HEAD()SUSPENSION
S9      39868   (DISK OR DISC?)(3N)DRIVE?
S10     33952   IC=(G11B? OR H02N?)
S11         1   S1(S)S2
S12         0   S1(S)S4(S)S5(S)S6
S13         0   (S1 OR S9)(S)S7
S14      6901   S9 AND S10
S15        12   S14(S)S4
S16         0   S15(S)S5(S)S6
S17         0   S15(S)(S5 OR S6)
S18         0   S15(S)C()SHAP?
S19        12   S15 NOT (S11 OR S7)
S20         1   S2(S)S9
```

7/3,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01066928
Balanced dielectric filter
Symmetrisches dielektrisches Filter
Filtre dielectrique equilibre
PATENT ASSIGNEE:
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., (216880), 1006, Ohaza Kadoma, Kadoma-shi, Osaka 571-8501, (JP), (Proprietor designated states: all)
INVENTOR:
Ishizaki, Toshio, 2-2-502, Okamoto 3-chome, Higashinada-ku, Kobe-shi, Hyogo 658-0072, (JP)
Yamada, Toru, 4-69-7, Kisaichi, Katano-shi, Osaka 576-0033, (JP)
Nakakubo, Hideaki, 14-504, Kabutodai, 1-2,Kizu-cho, Soraku-gun, Kyoto 619-0224, (JP)
Kitazawa, Shoichi, 2-11-8, Kofuen, Nishinomiya-shi, Hyogo 662-0832, (JP)
LEGAL REPRESENTATIVE:
Eisenfuhr, Speiser & Partner (100151), Martinistrasse 24, 28195 Bremen, (DE)
PATENT (CC, No, Kind, Date): EP 939449 A2 990901 (Basic)
EP 939449 A3 010613
EP 939449 B1 021218
APPLICATION (CC, No, Date): EP 99103505 990224;
PRIORITY (CC, No, Date): JP 9847793 980227
DESIGNATED STATES: DE; FI; FR; GB; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: H01P-001/203
ABSTRACT WORD COUNT: 138
NOTE:
Figure number on first page: 1A 1B 1C

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	199935	374
CLAIMS B	(English)	200251	386
CLAIMS B	(German)	200251	341
CLAIMS B	(French)	200251	440
SPEC A	(English)	199935	9498
SPEC B	(English)	200251	6142
Total word count - document A			9875
Total word count - document B			7309
Total word count - documents A + B			17184

...SPECIFICATION connected to each other by loading capacitances 86 and 87, respectively. In this arrangement, the **split - ring** resonators 80, 81 are coupled **electromagnetically** to form a filter.
In the conventional strip-line type filters described above, since the
...

...SPECIFICATION connected to each other by loading capacitances 86 and 87, respectively. In this arrangement, the **split - ring** resonators 80, 81 are coupled **electromagnetically** to form a filter.
In the conventional strip-line type filters described above, since the
...

7/3,K/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

00781892
ELECTROMAGNETIC RESONANT FILTER
ELEKTROMAGNETISCHER RESONANZFILTER
FILTRE RESONANT ELECTROMAGNETIQUE
PATENT ASSIGNEE:
ILLINOIS SUPERCONDUCTOR CORPORATION, (2157620), 451 Kingston Court, Mt. Prospect, IL 60056, (US), (Proprietor designated states: all)
INVENTOR:
LITHGOW, Robert, D., 111 East Wise Road, Schaumburg, IL 60193, (US)
PETERS, James, Michael, Apartment 2, 620 Hinman Avenue, Evanston, IL 60202, (US)
LEGAL REPRESENTATIVE:
Dr. Weitzel & Partner (101461), Friedenstrasse 10, 89522 Heidenheim, (DE)
PATENT (CC, No, Kind, Date): EP 795208 A1 970917 (Basic)
EP 795208 B1 010919
WO 9617398 960606
APPLICATION (CC, No, Date): EP 95942954 951130; WO 95US15594 951130
PRIORITY (CC, No, Date): US 349060 941202
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: H01P-001/208
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200138	201
CLAIMS B	(German)	200138	212
CLAIMS B	(French)	200138	239
SPEC B	(English)	200138	3741
Total word count - document A			0
Total word count - document B			4393
Total word count - documents A + B			4393

...CLAIMS B1
1. An **electromagnetic** filter comprising:
a housing (214) having a cavity therein;
a **split ring** resonator (200) located in the cavity, wherein the resonator has a first end and a...

7/3,K/3 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00973484 **Image available**
CLOSED-SLOT RESONATOR
RESONATEUR A FENTE FERMEE
Patent Applicant/Assignee:
ISCO INTERNATIONAL INC, 451 Kingston Court, Mount Propsect, IL 60056, US, US (Residence), US (Nationality)
Inventor(s):
REMILLARD Steven K, 2730 Central Street, Evanston, IL 60201, US,
RADZIKOWSKI Piotr O, 2229 West Fletcher Street, Chicago, IL 60618, US,
CORDONE Sean S, 900 North Lake Shore Drive #2806, Chicago, IL 60611, US,
APPLEGATE David S, 395 Oak Creek Drive #105, Wheeling, IL 60090, US,
KOKALES David J, 1300 East Algonquin Road Apartment 2K, Schaumburg, IL 60173, US,

MEHROTRA Arun K, 2 Cobbler Lane, Schaumburg, IL 60173, US,
Legal Representative:
ZIMMERMAN Mark C (agent), Marshall, Gerstein & Borun, 6300 Sears Tower, 233 South Wacker Drive, Chicago, IL 60606, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200303500 A1 20030109 (WO 0303500)
Application: WO 2002US16853 20020530 (PCT/WO US0216853)
Priority Application: US 2001891747 20010626
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 6509

Fulltext Availability:
Detailed Description

Detailed Description
... element 52. The length of the conductive element 52 controls the resonating properties of the **split - ring** resonator 50. However, the **electromagnetic** fields resonating around the **split - ring** resonator 50 are not confined to a plane perpendicular to the resonator 50, but rather ...spiral resonator 60 may be formed smaller than other prior art resonators, for example the **split ring** resonator 50, for a given frequency. The **electromagnetic** field resonating around the resonator 60 is not confined around the resonator, but rather is...

7/3,K/4 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00422306 **Image available**
APERTURE FOR COUPLING IN AN ELECTROMAGNETIC FILTER
OUVERTURE DE COUPLAGE DANS UN FILTRE ELECTROMAGNETIQUE
Patent Applicant/Assignee:
ILLINOIS SUPERCONDUCTOR CORPORATION,
Inventor(s):
REMILLARD Stephen K,
ABDELMONEM Amr,
BEIK Mostafa A,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9812767 A1 19980326
Application: WO 97US16194 19970912 (PCT/WO US9716194)
Priority Application: US 96716108 19960919
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 3443
Fulltext Availability:
Detailed Description
Claims

Detailed Description
... aperture
disposed in the cavity wall.

In a preferred embodiment of the present invention, the **electromagnetic** filter further includes a first **split - ring** resonator disposed in the first resonant cavity and a second split-ring resonator disposed in...

Claim
... second resonant cavity; and
a T-shaped aperture disposed in the cavity wall.

2 The **electromagnetic** filter of claim I comprising:
a first **split - ring** resonator disposed in the first resonant cavity; and
a second split-ring resonator disposed in the second resonant cavity;
wherein the first split-ring resonator and the second **split - ring** resonator each have a gap. - 13

3 The **electromagnetic** filter of claim 2, wherein:
the cavity wall is defined by a first edge, a...

...wherein the first
slot extends from the first edge to the fourth edge.

7 The **electromagnetic** filter of claim 3, wherein the first **split - ring** resonator and the second **split - ring** resonator are substantially toroidally-shaped.
8 The **electromagnetic** filter of claim 7, wherein the cavity wall has a square shape.

9 An electromagnetic...

...cavity wall disposed
substantially parallel to and substantially near the fourth edge. - 15

10 The **electromagnetic** filter of claim 9 comprising:
a first **split - ring** resonator disposed in the first resonant cavity; and
a second split-ring resonator disposed in...first
slot aperture extends from the first edge to the fourth edge. - 16

15 The **electromagnetic** filter of claim 10, wherein the first **split - ring** resonator and the second **split - ring** resonator are substantially toroidally-shaped.

16 The **electromagnetic** filter of claim 9, wherein the cavity wall has a square shape. - 17

17 An...

7/3,K/5 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00212815

AMPLITUDE AND PHASE BALANCED VOLTAGE-CONTROLLED OSCILLATOR
OSCILLATEUR COMMANDE EN TENSION A AMPLITUDE ET PHASE EQUILIBREES

Patent Applicant/Assignee:
MOTOROLA INC,
Inventor(s):
AVANIC Branko,
OOI Leng Hock,
YEH Peter J,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9210026 A1 19920611
Application: WO 91US8578 19911115 (PCT/WO US9108578)
Priority Application: US 90957 19901203
Designated States: AT BE CA CH DE DK ES FR GB GR IT JP LU NL SE
Publication Language: English
Fulltext Word Count: 1605

Fulltext Availability:
Detailed Description

Detailed Description
... symmetrically located on each side of the gap. Signals are applied to the load by **electromagnetically** coupling the **split - ring** resonator 46, which is resonant at the frequency of operation, to the main resonator 44...
?

11/3,K/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00788938 **Image available**
HIGH BANDWIDTH RECOILESS MICROACTUATOR
MICROACTIONNEUR SANS RECUL A GRANDE LARGEUR DE BANDE
Patent Applicant/Assignee:
VEECO INSTRUMENTS INC, Terminal Drive, Plainview, NY 11803, US, US (Residence), US (Nationality)
Inventor(s):
CLEVELAND Jason P, 2524 Pierpont Boulevard, Ventura, CA 93001, US,
GRIGG David, 69 Spruce Lane, Glastonbury, CT 06033, US,
Legal Representative:
NILLES Andrew J (et al) (agent), Nilles & Nilles, S.C., Firststar Center, Suite 2000, 777 East Wisconsin Avenue, Milwaukee, WI 53202, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200122468 A1 20010329 (WO 0122468)
Application: WO 2000US25600 20000919 (PCT/WO US0025600)
Priority Application: US 99399388 19990920
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 7393

Fulltext Availability:
Detailed Description

Detailed Description
... of the probe in the X, Y, and Z directions. The illustrated assembly 14 employs **piezoelectric** actuators, preferably **piezoelectric** tube actuators for this purpose. These actuators include an XY actuator assembly 30 and a Z actuator assembly 32 which includes the **microactuator** of the exemplified instruments. The XY actuator assembly 30 has an upper end which is...
?

19/3,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00989999
Recording medium and disc cartridge
Aufzeichnungstrager und Plattenkassette
Support d'enregistrement et cartouche pour disque
PATENT ASSIGNEE:
SONY CORPORATION, (214021), 7-35 Kitashinagawa 6-chome Shinagawa-ku, Tokyo 141, (JP), (applicant designated states: AT;BE;CH;CY;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
Tomita, Yasushi, c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo, (JP)
LEGAL REPRESENTATIVE:
Ayers, Martyn Lewis Stanley et al (42851), J.A. KEMP & CO. 14 South Square Gray's Inn, London WC1R 5LX, (GB)
PATENT (CC, No, Kind, Date): EP 895240 A1 990203 (Basic)
APPLICATION (CC, No, Date): EP 98305997 980728;
PRIORITY (CC, No, Date): JP 97206984 970731; JP 9868805 980318
DESIGNATED STATES: AT; BE; DE; DK; ES; FR; GB; IE; IT; NL; SE
INTERNATIONAL PATENT CLASS: G11B-023/00;
ABSTRACT WORD COUNT: 124
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9905	365
SPEC A	(English)	9905	9051
Total word count - document A			9416
Total word count - document B			0
Total word count - documents A + B			9416

...SPECIFICATION lowering plate 160 by a lock lever 169.
On the base 151 rearwardly of the **disc drive** device 150 are arranged a pair of head arms 163, 163, making up the magnetic head device. On the distal **ends** of these head arms 163, 163 are mounted a pair of facing magnetic heads 191...

...arms 163, 163 are rotationally biased by biasing means, not shown, in the direction of **approaching** the distal **ends** thereof, as indicated by arrow I in Fig.7. These head arms 163, 163 are **moved** in the fore-and-aft direction of the base 151 in the direction indicated by...

19/3,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00948969
A cleaning device
Reinigungsvorrichtung
Dispositif de nettoyage
PATENT ASSIGNEE:
Taiwan Bor Ying Corporation, (2464460), No. 59, Lane 369, Chin Men Street , Panchiao City, Taipei Hsien, (TW), (Applicant designated States: all)
INVENTOR:
Masaaki, Kuwahara, 1 chome 14-27, Izumi-cho, Hoya-chi, Tokyo, (JP)
LEGAL REPRESENTATIVE:
Sanderson, Michael John et al (35592), MEWBURN ELLIS York House 23

Kingsway, London WC2B 6HP, (GB)
PATENT (CC, No, Kind, Date): EP 860814 A2 980826 (Basic)
EP 860814 A3 010228
APPLICATION (CC, No, Date): EP 98301145 980217;
PRIORITY (CC, No, Date): JP 9731929 970217; JP 9794139 970411; JP 97149589 970606
DESIGNATED STATES: BE; CH; DE; ES; FR; GB; GR; IE; LI; NL; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G11B-005/41; G11B-007/12; G11B-011/10; G11B-019/02; G11B-019/12; G11B-023/03; G11B-023/36; G11B-027/36
ABSTRACT WORD COUNT: 179
NOTE:
Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9835	689
SPEC A	(English)	9835	4653
Total word count - document A			5342
Total word count - document B			0
Total word count - documents A + B			5342

...SPECIFICATION 16, that is, the magnetic track No. 1.
When a disc cartridge is loaded, the **disc drive** will first adjust the focus of the photo pickup 32. In the procedure of focus adjustment, the photo pickup 32 will quickly **approach** the surface of the disc medium 10 until only a very small distance of about...

...them and the disc medium turns at the same time or before and after the **approach movement** . Thereafter, the distance between the disc medium 10 and the photo pickup 32 is adjusted...
...playback of the track No. 1 will begin to output the voice message of "cleaning **ends** ".
In the procedure of focus adjustment, since the photo pickup 32 will approach the disc...

19/3,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00907504
Disc recording and/or reproducing apparatus
Plattenaufzeichnungs- und/oder -wiedergabegerat
Appareil d'enregistrement et/ou de reproduction de disque
PATENT ASSIGNEE:
SONY CORPORATION, (214025), 6-7-35 Kitashinagawa Shinagawa-ku, Tokyo 141, (JP), (Proprietor designated states: all)
INVENTOR:
Fukuyama, Yutaka, c/o Sony Corporation, Intell. Prop. Dep., 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141, (JP)
Ito, Shinji, c/o Sony Corporation, Intell. Prop. Dep., 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141, (JP)
Takamatsu. Atsushi, c/o Sony Corporation, Intell. Prop. Dep., 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141, (JP)
LEGAL REPRESENTATIVE:
Boden, Keith McMurray et al (83222), D. Young & Co. 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 828246 A1 980311 (Basic)
EP 828246 B1 010829

APPLICATION (CC, No, Date): EP 97203391 940120;
PRIORITY (CC, No, Date): JP 9334455 930129
DESIGNATED STATES: DE; FR; GB; IT; NL
RELATED PARENT NUMBER(S) - PN (AN):
EP 609024 (EP 94300423)
INTERNATIONAL PATENT CLASS: G11B-017/04
ABSTRACT WORD COUNT: 214
NOTE:
Figure number on first page: 28

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	199811	201
CLAIMS B	(English)	200135	267
CLAIMS B	(German)	200135	267
CLAIMS B	(French)	200135	334
SPEC A	(English)	199811	13380
SPEC B	(English)	200135	13488
Total word count - document A			13583
Total word count - document B			14356
Total word count - documents A + B			27939

...SPECIFICATION the loading plate 29 is moved downwards, that is in a direction of approaching the **disc drive** block 147, while the relative position between the loading plate and the slide plate 31...

...At this time, since the supporting pins 32 to 35 are positioned at the rear **ends** of the supporting pins 80 to 84, the loading plate 29 cannot be **moved** further rearward. The result is that, if the cam plates 27, 28 are **moved** rearward, the supporting pins 32 to 35 are positioned at the points of intersection between...

...and third supporting slits 80, 81, 83, 84, so that the loading plate 29 is **moved** downwards. At this time, the actuating pin 45 is positioned halfway in the engaging opening...

...The disc cartridge 201 or 221 is loaded on the base block 130 of the **disc drive** block 147 in position by the positioning pins 156, 157, as shown in Figs. 24...

...SPECIFICATION the loading plate 29 is moved downwards, that is in a direction of approaching the **disc drive** block 147, while the relative position between the loading plate and the slide plate 31...

...At this time, since the supporting pins 32 to 35 are positioned at the rear **ends** of the supporting pins 80 to 84, the loading plate 29 cannot be **moved** further rearward. The result is that, if the cam plates 27, 28 are **moved** rearward, the supporting pins 32 to 35 are positioned at the points of intersection between...

...and third supporting slits 80, 81, 83, 84, so that the loading plate 29 is **moved** downwards. At this time, the actuating pin 45 is positioned halfway in the engaging opening...

...The disc cartridge 201 or 221 is loaded on the base block 130 of the **disc drive** block 147 in position by the positioning pins 156, 157, as shown in Figs. 24...

19/3,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00903859
Disc recording and/or reproducing apparatus
Plattenaufzeichnungs- und/oder -wiedergabegerat
Appareil d'enregistrement et/ou de reproduction de disque
PATENT ASSIGNEE:
SONY CORPORATION, (214025), 6-7-35 Kitashinagawa Shinagawa-ku, Tokyo 141, (JP), (Proprietor designated states: all)
INVENTOR:
Fukuyama, Yutaka, c/o Sony Corporation, Intell. Prop. Dep., 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141, (JP)
Ito, Shinji, c/o Sony Corporation, Intell. Prop. Dep., 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141, (JP)
Takamatsu, Atsushi, c/o Sony Corporation, Intell. Prop. Dep., 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141, (JP)
LEGAL REPRESENTATIVE:
Boden, Keith McMurray et al (83222), D. Young & Co. 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 825600 A1 980225 (Basic)
EP 825600 B1 020410
APPLICATION (CC, No, Date): EP 97203392 940120;
PRIORITY (CC, No, Date): JP 9334455 930129
DESIGNATED STATES: DE; FR; GB; IT; NL
RELATED PARENT NUMBER(S) - PN (AN):
EP 609024 (EP 94300423)
INTERNATIONAL PATENT CLASS: G11B-017/04
ABSTRACT WORD COUNT: 269
NOTE:
Figure number on first page: 6

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	199809	355
CLAIMS B	(English)	200215	391
CLAIMS B	(German)	200215	377
CLAIMS B	(French)	200215	464
SPEC A	(English)	199809	13445
SPEC B	(English)	200215	13643
Total word count - document A			13802
Total word count - document B			14875
Total word count - documents A + B			28677

...SPECIFICATION the loading plate 29 is moved downwards, that is in a direction of approaching the **disc drive** block 147, while the relative position between the loading plate and the slide plate 31...

...At this time, since the supporting pins 32 to 35 are positioned at the rear **ends** of the supporting pins 80 to 84, the loading plate 29 cannot be **moved** further rearward. The result is that, if the cam plates 27, 28 are **moved** rearward, the supporting pins 32 to 35 are positioned at the points of intersection between...

...and third supporting slits 80, 81, 83, 84, so that the loading plate 29 is **moved** downwards. At this time, the actuating pin 45 is positioned halfway in the engaging opening...

...The disc cartridge 201 or 221 is loaded on the base block 130 of the **disc drive** block 147 in position by the positioning pins 156, 157, as shown in Figs. 24...

...SPECIFICATION the loading plate 29 is moved downwards, that is in a direction of approaching the **disc drive** block 147, while the relative position between the loading plate and the slide plate 31...

...At this time, since the supporting pins 32 to 35 are positioned at the rear **ends** of the supporting pins 80 to 84, the loading plate 29 cannot be **moved** further rearward. The result is that, if the cam plates 27, 28 are **moved** rearward, the supporting pins 32 to 35 are positioned at the points of intersection between...

...and third supporting slits 80, 81, 83, 84, so that the loading plate 29 is **moved** downwards. At this time, the actuating pin 45 is positioned halfway in the engaging opening...

...The disc cartridge 201 or 221 is loaded on the base block 130 of the **disc drive** block 147 in position by the positioning pins 156, 157, as shown in Figs. 24...

19/3,K/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00833429
Use of a PLL in an embedded servo demodulator
Gebrauch eines Phasenregelkreises in einem eingebetteten Servodemodulator
Utilisation d'un PLL (bruche a verrouillage de phase) dans un demodulateur d'asservissement sous-jacent
PATENT ASSIGNEE:
Hewlett-Packard Company, (206030), 3000 Hanover Street, Palo Alto, California 94304, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Kopplin, John, 5324 Ellens Ferry Drive, Boise, Idaho 83703, (US)
LEGAL REPRESENTATIVE:
Schoppe, Fritz, Dipl.-Ing. (55463), Patentanwalt, P.O. Box 71 08 67, 81458 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 772187 A2 970507 (Basic)
EP 772187 A3 971229
APPLICATION (CC, No, Date): EP 96116502 961015;
PRIORITY (CC, No, Date): US 551097 951031
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-005/596;
ABSTRACT WORD COUNT: 93
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB97	587
SPEC A	(English)	EPAB97	6693
Total word count - document A			7280
Total word count - document B			0
Total word count - documents A + B			7280

...SPECIFICATION this same device also permits shrinking of the data areas. In prior art embedded servo **disk drives** , the write clock which was used for timing the writing of the user's data...

...is not linked to the instantaneous spindle speed. Consequently a variable amount of disk rotation **ends** up being consumed by the writing of a fixed amount of data. In order that...

...of the next embedded servo field, the disk format has to be designed with gaps **separating** the data areas from the embedded servo areas. These gaps provide a cushion for spindle...

19/3,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00624140
Disc recording and/or reproducing apparatus
Plattenaufzeichnungs- und/oder -wiedergabegerat
Appareil d'enregistrement et/ou de reproduction de disque
PATENT ASSIGNEE:
SONY CORPORATION, (214024), 7-35, Kitashinagawa 6-chome Shinagawa-ku, Tokyo, (JP), (Proprietor designated states: all)
INVENTOR:
Fukuyama, Yutaka, c/o Intellectual Property Div., Sony Corp., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
Ito, Shinji, c/o Intellectual Property Div., Sony Corp., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
Takamatsu, Atsushi, c/o Intellectual Property Div., Sony Corp., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
LEGAL REPRESENTATIVE:
Boden, Keith McMurray et al (83222), D. Young & Co. 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 609024 A2 940803 (Basic)
EP 609024 A3 960221
EP 609024 B1 991208
APPLICATION (CC, No, Date): EP 94300423 940120;
PRIORITY (CC, No, Date): JP 9334455 930129
DESIGNATED STATES: DE; FR; GB; IT; NL
RELATED DIVISIONAL NUMBER(S) - PN (AN):
EP 828246 (EP 97203391)
EP 825600 (EP 97203392)
INTERNATIONAL PATENT CLASS: G11B-017/04; G11B-017/035; G11B-033/02; G11B-011/10
ABSTRACT WORD COUNT: 314
NOTE:
Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9949	946
CLAIMS B	(German)	9949	922
CLAIMS B	(French)	9949	1079
SPEC B	(English)	9949	12936
Total word count - document A			0
Total word count - document B			15883
Total word count - documents A + B			15883

...SPECIFICATION the loading plate 29 is moved downwards, that is in a direction of approaching the **disc drive** block 147, while the relative position between the loading plate and the slide plate 31...

...At this time, since the supporting pins 32 to 35 are positioned at the rear **ends** of the supporting pins 80 to 84, the loading plate 29 cannot

be **moved** further rearward. The result is that, if the cam plates 27, 28 are **moved** rearward, the supporting pins 32 to 35 are positioned at the points of intersection between...

...and third supporting slits 80, 81, 83, 84, so that the loading plate 29 is **moved** downwards. At this time, the actuating pin 45 is positioned halfway in the engaging opening...

...The disc cartridge 201 or 221 is loaded on the base block 130 of the **disc drive** block 147 in position by the positioning pins 156, 157, as shown in Figs. 24...

19/3,K/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00482069
Magnetic disc drive
Magnetplattenantrieb
Entrainement pour disque magnetique
PATENT ASSIGNEE:
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., (216883), 1006, Oaza Kadoma, Kadoma-shi, Osaka-fu, 571, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
Hisashi, Kano, 38-201 Sengokunishi-Machi 4-Chome, Kadoma-Shi, Osaka, (JP)
LEGAL REPRESENTATIVE:
Nicholls, Michael John et al (61941), J.A. KEMP & CO. 14, South Square Gray's Inn, London WC1R 5LX, (GB)
PATENT (CC, No, Kind, Date): EP 453109 A2 911023 (Basic)
EP 453109 A3 920603
EP 453109 B1 960612
APPLICATION (CC, No, Date): EP 91302718 910327;
PRIORITY (CC, No, Date): JP 9077849 900327
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-005/54;
ABSTRACT WORD COUNT: 137

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1308
CLAIMS B	(English)	EPAB96	700
CLAIMS B	(German)	EPAB96	730
CLAIMS B	(French)	EPAB96	877
SPEC A	(English)	EPABF1	4102
SPEC B	(English)	EPAB96	4021
Total word count - document A			5410
Total word count - document B			6328
Total word count - documents A + B			11738

...SPECIFICATION medium.
2. Description of the Prior Art:
As shown in Fig. 10., a conventional magnetic **disk drive** includes a plurality (two being shown) of parallel **spaced** magnetic disks 1, 2 mounted on a single rotary shaft or spindle (not shown). An access arm 3 is driven by a voice coil motor (not shown) and **movable** in a direction parallel to the plane of the magnetic disks 1, 2. A pair...
...flexures 4, 5 are bent inwardly toward each other at portions adjacent

to the fixed **ends** thereof. Floating magnetic heads 6, 7 are carried on the distal **ends** of the respective flexures 4, 5 at the sides which face toward the corresponding magnetic...

...flexures 4, 5 are not subjected to external forces, the magnetic heads 6, 7 are **spaced** far from the recording surfaces of the respective magnetic disks 1, 2. The floating magnetic...

...6. The magnetic head 6 includes, as shown in Fig. 15, a pair of laterally **spaced** cores 6b, 6c attached to one side of the negative pressure slider 6a with a...

...floating rail 6g which serves to develop a positive pressure as the magnetic head 6 **approaches** the magnetic disk 1 (Fig. 10). The U-shaped floating rail 6g has two recessed...

...recess 6i serves to develop a negative pressure or suction when the magnetic head 6 **approaches** the magnetic disk 1. During that time, a stream of air flows from one side...

...the width of the arm 3; if not so, the pusher rod 8, as it **moves** toward the heads 6, 7 to spread the flexures 4, 5, is flexed or bent...

...SPECIFICATION magnetic recording medium.
As shown in Figure 10 of the accompanying drawings, a conventional magnetic **disk drive** includes a plurality (two being shown) of parallel **spaced** magnetic disks 1, 2 mounted on a single rotary shaft or spindle (not shown). An access arm 3 is driven by a voice coil motor (not shown) and **movable** in a direction parallel to the plane of the magnetic disks 1, 2. A pair...

...flexures 4, 5 are bent inwardly toward each other at portions adjacent to the fixed **ends** thereof. Floating magnetic heads 6, 7 are carried on the distal **ends** of the respective flexures 4, 5 at the sides which face toward the corresponding magnetic...

...flexures 4, 5 are not subjected to external forces, the magnetic heads 6, 7 are **spaced** far from the recording surfaces of the respective magnetic disks 1, 2. The floating magnetic...

...6. The magnetic head 6 includes, as shown in Fig. 15, a pair of laterally **spaced** cores 6b, 6c attached to one side of the negative pressure slider 6a with a...
...floating rail 6g which serves to develop a positive pressure as the magnetic head 6 **approaches** the magnetic disk 1 (Fig. 10). The U-shaped floating rail 6g has two recessed...

...recess 6i serves to develop a negative pressure or suction when the magnetic head 6 **approaches** the magnetic disk 1. During that time, a stream of air flows from one side...

...the width of the arm 3; if not so, the pusher rod 8, as it **moves** toward the heads 6, 7 to spread the flexures 4, 5, is flexed or bent...

19/3,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00319782

Apparatus for storing and retrieving information containing disc utilizing a movable magazine.
Gerat zur Lagerung und Wiederfindung einer Informationsplatte mit einem verstellbaren Behalter.
Appareil de stockage et de restitution d'un disque contenant de l'information utilisant un magasin mobile.
PATENT ASSIGNEE:
CYGNET SYSTEMS INCORPORATED, (1048240), 601 West California Avenue, Sunnyvale California 94086, (US), (applicant designated states: AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)
INVENTOR:
Raudebaugh, Bart, 298, West Eaglewood, Sunnyvale California 94086, (US)
Ricco, Gary, 617 Timberpine No. 2, Sunnyvale California 94086, (US)
McCabe, Gary E., 1279 Rulbar Court, San Jose California 95132, (US)
LEGAL REPRESENTATIVE:
Alexander, Thomas Bruce et al (27591), Boult, Wade & Tennant 27 Furnival Street, London EC4A 1PQ, (GB)
PATENT (CC, No, Kind, Date): EP 321248 A2 890621 (Basic)
EP 321248 A3 891227
EP 321248 B1 950201
APPLICATION (CC, No, Date): EP 88311886 881215;
PRIORITY (CC, No, Date): US 133008 871215
DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: G11B-017/22;
ABSTRACT WORD COUNT: 153

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPBBF2	2025
CLAIMS B	(English)	EPBBF2	1436
CLAIMS B	(German)	EPBBF2	1408
CLAIMS B	(French)	EPBBF2	1796
SPEC A	(English)	EPBBF2	7454
SPEC B	(English)	EPBBF2	7047
Total word count - document A			9479
Total word count - document B			11687
Total word count - documents A + B			21166

...SPECIFICATION into its frame, it pulls the disc with it. The carriage arm picks up a **disc** from the **drive** unit 14 in the same way. In this regard, a standard **disc drive** includes means for automatically ejecting its disc in the same way as solenoid 56 ejects...

...SPECIFICATION into its frame, it pulls the disc with it. The carriage arm picks up a **disc** from the **drive** unit 14 in the same way. In this regard, a standard **disc drive** includes means for automatically ejecting its disc in the same way as solenoid 56 ejects...

19/3,K/9 (Item 9 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00314455
A magnetic recording disk cartridge.
Magnetaufnahmen-Plattenkassette.
Cassette a disque a enregistrement magnetique.
PATENT ASSIGNEE:
TEIJIN LIMITED, (394080), 11 Minamihonmachi 1-chome Higashi-ku, Osaka-shi

Osaka 541, (JP), (applicant designated states: DE;FR;GB;NL)
INVENTOR:
Kadokura, Sadao, 940-15, Utsugimachi, Hachioji-shi Tokyo, (JP)
Kamei, Kazuhiro, 3-18-4-222, Tamadaira, Hino-shi Tokyo, (JP)
Watamura, Yoshihisa, 3-18-4-213, Tamadaira, Hino-shi Tokyo, (JP)
LEGAL REPRESENTATIVE:
Arthur, Bryan Edward et al (27781), 4 Dyers Buildings Holborn, London, EC1N 2JT, (GB)
PATENT (CC, No, Kind, Date): EP 299783 A2 890118 (Basic)
EP 299783 A3 900131
EP 299783 B1 940601
APPLICATION (CC, No, Date): EP 88306487 880715;
PRIORITY (CC, No, Date): JP 87175981 870716; JP 87236303 870922
DESIGNATED STATES: DE; FR; GB; NL
INTERNATIONAL PATENT CLASS: G11B-023/03; G11B-023/033; G11B-005/82
ABSTRACT WORD COUNT: 97

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	970
CLAIMS B	(German)	EPBBF1	863
CLAIMS B	(French)	EPBBF1	1087
SPEC B	(English)	EPBBF1	8630
Total word count - document A			0
Total word count - document B			11550
Total word count - documents A + B			11550

...SPECIFICATION without being subjected to an unfavorable force when the disk 10 is set in the **magnetic disk drive** unit. The lower and upper halves 20a and 20b of the casing 20 are provided...

...23b used as head windows for permitting a magnetic recording/retrieving head (not illustrated) to **approach** the magnetic recording disk 10 and to **move** radially for reading and retrieving information on the disk 10. The lower and upper halves so that the magnetic recording disk **is** smoothly rotated when **driven** . The inner faces 21c and 21d of the lower and upper halves 20a and 20b...

...recording disk 10 during the rotation of the magnetic recording disk 10 in the casing **20** . These ring members 27a and 27b are disposed to confront both faces of the magnetic recording disk **10** at an outer peripheral portion of the disk 10, i.e., the outer peripheral portion...

19/3,K/10 (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00230354
Automatic disc loading and unloading mechanism for record player apparatus.
Automatischer Plattenlade- und -entlademechanismus fur Plattenspieler.
Mecanisme de chargement et d'ejection automatique de disque pour tourne-disques.
PATENT ASSIGNEE:
STAAR SOCIETE ANONYME, (711590), Chaussee de Roodebeek, 137-143, B-1200 Bruxelles, (BE), (applicant designated states: AT;CH;DE;FR;GB;IT;LI)
INVENTOR:
Agostini, Louis Pierre Cesar, Rue g. Wittouck, 26, B-1600 Sint-Pieters-Leeuw, (BE)

LEGAL REPRESENTATIVE:
  Overath, Philippe et al (751), Cabinet Bede 13, Avenue Antoine Depage, B-1050 Bruxelles, (BE)
PATENT (CC, No, Kind, Date): EP 200705 A2 861105 (Basic)
EP 200705 A3 880608
EP 200705 B1 901010
APPLICATION (CC, No, Date): EP 86870054 860422;
PRIORITY (CC, No, Date): BE 214895 850423
DESIGNATED STATES: AT; CH; DE; FR; GB; IT; LI
INTERNATIONAL PATENT CLASS: G11B-017/04;
ABSTRACT WORD COUNT: 59

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPABF1	600
SPEC B	(English)	EPABF1	2201
Total word count - document A			0
Total word count - document B			2801
Total word count - documents A + B			2801

...SPECIFICATION the disc to be rotated by the drive means.
Means are provided for clamping the **disc** on the **drive** hub 22, herein shown as a clamping magnet 58. Means are also provided for raising and lowering the clamping magnet 58 during the course of **movement** of the disc to and from the operating position. The clamping magnet 58 is provided...

...through slots 70A, 70B in said guide levers. The guide levers 64A, 64B have operative **ends** 72A, 72B which fit against the conical guiding surface 62 of the guide member 60...
...As shown in Figure 2, the guide levers 64A, 64B are positioned with their operative **ends** 72A, 72B inwardly in engagement with the guide member 60 for the clamping magnet so...

...clamping magnet 58 is held free and clear of the record disc until the disc **approaches** the operating position. In the final **movement** of the coordinating levers 32A, 32B, which **moves** the pair of **opposed** conical elements 24A, 24B and the central conical element 24C radially outwardly, allowing the disc...

...guide member 60 for the clamping magnet 58, thus allowing the clamping magnet 58 to **move** downwardly and clamp the record **disc** on the **drive** hub 22.
In the unloading operation, by operation of the drive motor 54, the coordinating...

19/3,K/11 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00532185 **Image available**
ROTATIONAL VIBRATION DETECTION USING A VELOCITY SENSE COIL
DETECTION DES VIBRATIONS PROVOQUEES PAR LA ROTATION A L'AIDE D'UNE BOBINE DETECTANT LA VITESSE
Patent Applicant/Assignee:
  SEAGATE TECHNOLOGY INC,
Inventor(s):
  RATLIFF Ryan T,

WOOD Roy L,
McKENZIE Lealon R,
FUNCHES Otis L,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9963537 A1 19991209
Application: WO 99US12591 19990604 (PCT/WO US9912591)
Priority Application: US 9888073 19980605; US 99286203 19990405
Designated States: CN DE GB JP KR SG
Publication Language: English
Fulltext Word Count: 7326

Fulltext Availability:
Claims

Claim
... practiced. Referring first to FIG. 1, shown therein is a top plan view of a **disc drive** I 00 used to store computer data. The **disc drive** I 00 includes a head-disc assembly
(HDA) IO 1 and a printed wiring assembly...

...the discs 106 to the spindle motor 104.
The discs 106 include recording surfaces (not **separately** designated) to which user data are written by way of a rotary actuator I I...

...VCM) I 1 4. As will be recognized, the VCM includes a magnetic circuit (not **separately** designated) which establishes a magnetic field in which the actuator coil I I') is immersed...

...and an MR read element. A latch 122 secures the actuator I IO when the **disc drive** I 00 is deactivated, and a flex circuit assembly 124 facilitates electrical interconnection between the actuator I IO and the **disc drive** PWA.
Of particular interest in FIG. I is a velocity sense coil 130 which, as ...
...is used to detect application of rotational vibration to the base deck 102 of the **disc drive** 100. As shown in FIG. 1, the velocity sense coil 130 is immersed in the...to review the manner in which rotational vibration can adversely affect the operation of the **disc drive** 100. As mentioned above, vibrational effects can be characterized as translational, or rotational. By way...

...example, translational vibration, illustrated by acceleration vectors 134 and 136 in FIG. 1, tends to **move** the base deck 102 laterally along a selected plane of the **disc drive** 100 (in this case, along a plane generally parallel to a plane of the top...

...cartridge bearing assembly 112, both the discs 106 and the heads 120 will tend to **move** together, resulting in minimal head/disc displacement. On the other hand, rotational vibration, illustrated by acceleration vectors 134 and 138, causes **movement** of the base deck 102 about an axis normal to a plane along which the top disc 106 extends. The discs 106 accordingly **move** along with the base deck 102, but the actuator 1 1 0, as a free...

...corrupting the user data stored on the disc 106. Rotational vibration will thus tend to **move** the base deck 102 (and hence, the magnetic circuit of the VCM 114) relative to...

...coil. In a manner to be discussed below, such induced voltage is used by the **disc drive** to detect the application of rotational vibration to

the drive.
Referring now to FIG. 2...conventional manner. FIG. 4 provides a generalized functional block diagram of relevant portions of the **disc drive** I 00 of FIG. 1, including circuitry disposed on the aforementioned **disc drive** PWA. The **disc drive** I 00 is shown to be operably coupled to a host device 150 with which the **disc drive** I 00 is associated. For example, the host device 150 can comprise a personal computer (PC) in which the **disc drive** is mounted. A control processor 152 provides top level control of the operation of the **disc drive** I 00 in accordance with programming and parameter values stored in dynamic random access memory (DRAM) 154 and flash memory 156. An interface circuit 158 includes a data buffer (not **separate**ly shown) for the temporary buffering of transferred data, and a sequence controller ("sequencer," also not **separately** shown) which directs the operation of a read/write channel 160 and a prearnplifier/driver...

...166 of FIG. 4, in
conjunction with sense circuitry to be described as follows. During **disc drive** operation, servo information stored to the discs 106 is supplied to an automatic gain control...coil driver 1 76 does not pass through the velocity sense coil 130 (note the **separate** connection paths for the coils I 1 3), 1 3) 0), ignoring effects of any...

...routine performed as part of other continuously executing programming steps of the DSP 172 during **disc drive** operation. As shown at step 202, the routine first determines the magnitude of the RV...

...it will be noted that the RV signal will only be indicative of actual relative **movement** between the magnetic circuit 140 and the velocity sense coil 130; such **movement** can take place due to rotational vibration, from the application of current to the actuator...the threshold T preferably identifies when a magnitude of the rotational vibration applied to the **disc drive** 100 exceeds a specified magnitude, such as, for example, 21 radians per second 2 (rads...

...to monitor the VELs value and, as necessary, temporarily suspend data transfer operations of the **disc drive** 100 to prevent the undesirable effects of excessive rotational vibration upon drive transfer rate performance.
In a further preferred embodiment, the **disc drive** I 00 operates to compensate for the effects of rotational vibration. Referring now to FIG ...

...a plant block 300 is presented representative of
selected electrical and mechanical aspects of the **disc drive** 100. For reference, the plant 300 generally includes portions of the primary loop established by...10 and 312, respectively. Bias will be understood as indicative of forces that tend to **move** the heads away from a selected position, such as spring forces applied by the flex...

...and could be modified with corresponding changes in polarity of the respective signals.
Accordingly, during **disc drive** operation the RA signal is generated on a
sampled basis and provided to the servo circuit 166 to minimize the effects of rotational vibration upon the **disc drive** 100. Various considerations for the implementation and operation of the circuits of FIGS. 5 and...fundamental track-following characteristic transient and steady-state responses. The design criteria for each given **disc drive** design will usually entail a variety of specifications for track density,

write fault threshold (percentage...forward transfer function. Nevertheless, simulation results, as discussed below, generally show the adequacy of this **approach** .
Particularly, simulations were performed wherein position error was characterized as a function of steady-state...operational advantages over the prior art, including low cost and ease of integration into existing **disc drive** designs.
From the foregoing discussion, it will be clearly understood that the present invention is directed to an apparatus and method for detecting application of rotational vibration to a **disc drive** . As exemplified by presently preferred embodiments, a **disc drive** 100 includes a rotary actuator 1 10 supporting a head 120 adjacent a rotatable disc...

...in relation to a sense voltage induced across the coil as the magnetic circuit is **moved** relative to the velocity sense coil, and a data transfer operation between the head and...

...coil" will be readily understood. consistent with the foregoing discussion, to describe the fact that **separate** electrical connection paths are provided for the first and second coils, so that current passed ...

...phrase "host device" will be
understood to describe any device which communicates with the claimed **disc drive** , such as, but not limited to, the personal computer discussed above. Although method steps have...

...claims. It will be clear that the present invention is well adapted to attain the **ends** and advantages mentioned as well as those inherent therein. While presently preferred embodiments have been...

19/3,K/12 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00214414
RIGID DISK DRIVE WITH DYNAMIC HEAD LOADING APPARATUS
UNITE DE DISQUE DUR COMPRENANT UN APPAREIL DE CHARGEMENT DE TETE DYNAMIQUE
Patent Applicant/Assignee:
INTEGRAL PERIPHERALS INC,
Inventor(s):
MOREHOUSE James H,
FURAY David M,
DUNCKLEY James A,
EMO Bruce D,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9211630 A1 19920709
Application: WO 91US9367 19911213 (PCT/WO US9109367)
Priority Application: US 90957 19901219; US 91479 19910925
Designated States: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE
Publication Language: English
Fulltext Word Count: 10274

Fulltext Availability:
Detailed Description
Detailed Description
... issued May 5, 1987. In
McNeil, a pair of can surfaces are supported by the **disk drive** housing and a wing, having a pair of free **ends** ,, is

5 attached to the load bean intermediate the actuator driving mechanism and the free end of the load beam which supports the head slider. The free **ends** of the wing cooperate with the cam surfaces to lift the magnetic recording head slider...

...of the disk when
10 the head arm is retracted. In McNeil, the direction of **movement** of the magnetic media beneath the magnetic recording head is such that the media is...

...offset and
provide pitch to the slider during the loading process when the slider is **approaching** the surface of the rotating media.

U.S. Patent 4,933,785 to Morehouse et...
?

20/3,K/1 **(Item 1 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT

00911004 **Image available**
HEAD GIMBAL ASSEMBLY WITH PIEZOELECTRIC MICROACTUATOR
SUSPENSION A LA CARDAN POUR UNE TETE, COMPRENANT UN MICROACTIONNEUR PIEZOELECTRIQUE

Patent Applicant/Assignee:
SAE MAGNETICS (H K) LTD, SAE Tower, 15th Floor, 38-42 Kwai Fung Crescent, Kwai Chung, N.T., Hong Kong, CN, CN (Residence), CN (Nationality)
Inventor(s):
SHIRAISHI Masashi, Winnerway Industrial Area, Huangcun, Dongguan City, Guangdong Province, CN,
KASAJIMA Tamon, Winnerway Industrial Area, Huangcun, Dongguan City, Guangdong Province, CN,
WU Kai, Winnerway Industrial Area, Huangcun, Dongguan City, Guangdong Province, CN,
WANG Zhihong, School of Electrical and Electronic Engineering, Block S1, Sensors & Actuators Laboratory, Nanyang Technological University, Nanyang Avenue, Singapore 639798, SG,
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Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200245181 A1 20020606 (WO 0245181)
Application: WO 2000CN525 20001128 (PCT/WO CN0000525)
Priority Application: WO 2000CN525 20001128
Designated States: CN
Publication Language: English
Filing Language: English
Fulltext Word Count: 7380

Fulltext Availability:
Claims

Claim
... have a common ground terminal and drive respective ones of said symmetric parts.
13.A **disk drive** suspension comprising:
24
a load beam formed as a one piece,, unitary member from a...
...is a joint between said proximal stationary section and said distal moving section. 14.A **disk drive** suspension set forth in claim 13, wherein the load beam includes a slit and slot separating the distal moving section from the proximal stationary section. 15.A **disk drive** suspension set forth in claim 14, wherein the slot has a first slot
25
and...

...at the longitudinally symmetric line of the load beam and form said hinge. 16.A **disk drive** suspension set forth in claim 15, wherein the slit includes a first pair of slits sandwiching the first slot and a second pair of slits sandwiching the second slot. ITA **disk drive** suspension set forth in claim 16, wherein the first pair of slits and the

first slot formed therebetween form a first **C - shaped** resilient ear coupling said io distal moving section to said proximal stationary section at one...

...coupling said distal moving section to said proximal stationary section at another edge, wherein said **C - shaped** ears enable said distal moving section to pivot with respect said hinge. 18.A **disk drive** suspension set forth in claim 14, wherein said slit and slot are located at said mounting region at the proximal end of the load beam. 19.A **disk drive** suspension set forth in claim 14, wherein said slit and slot are located at said rigid region at the distal end of the load beam. 20.A **disk drive** suspension set forth in claim 13, wherein the load beam includes a 26
flange rib coupling the distal moving section to the proximal stationary section. 21.A **disk drive** suspension set forth in claim 20, wherein said flange rib has a first flange rib with a **C - shaped** resilient ear coupling said distal moving section to said proximal stationary section at one edge and a second flange rib with a **C - shaped** resilient ear coupling said distal moving section to said proximal stationary section at another edge...

...out-of-plane io motion of the distal moving section is sufficiently suppressed. 22.A **disk drive** suspension set forth in claim 20, wherein said flange ribs with Cshaped ears are located at said mounting region at the proximal end of the load beam. 23.A **disk drive** suspension set forth in claim 20, wherein said flange ribs with Cshaped ears are located ...

...the distal end of the load beam.
24.A head gimbal assembly comprising:
2o a **disk drive** suspension including,
a load beam formed as a one piece, unitary member from a single...

...is a joint between said proximal stationary section and said distal moving section; and
a **piezoelectric** device including a **piezoelectric** device including an integral body of **piezoelectric** material having a length and width greater than its thickness,, wherein the device ftirther includes...

...electrode pairs
28
. The head gimbal assembly of claim 24 wherein said integral body of **piezoelectric** material is an elongated plate and said transverse direction is the width direction of the...
?

```
File   9:Business & Industry(R) Jul/1994-2003/Apr 03
         (c) 2003 Resp. DB Svcs.
File  15:ABI/Inform(R) 1971-2003/Apr 03
         (c) 2003 ProQuest Info&Learning
File  20:Dialog Global Reporter 1997-2003/Apr 04
         (c) 2003 The Dialog Corp.
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File 553:Wilson Bus. Abs. FullText 1982-2003/Feb
         (c) 2003 The HW Wilson Co
File 624:McGraw-Hill Publications 1985-2003/Apr 03
         (c) 2003 McGraw-Hill Co. Inc
File  88:Gale Group Business A.R.T.S. 1976-2003/Apr 03
         (c) 2003 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2003/Apr 03
         (c) 2003 The Gale Group
File 570:Gale Group MARS(R) 1984-2003/Apr 02
         (c) 2003 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Apr 03
         (c) 2003 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2003/Apr 03
         (c) 2003 The Gale Group
File 613:PR Newswire 1999-2003/Apr 04
         (c) 2003 PR Newswire Association Inc
File 623:Business Week 1985-2003/Apr 03
         (c) 2003 The McGraw-Hill Companies Inc
File 264:DIALOG Defense Newsletters 1989-2003/Apr 03
         (c) 2003 The Dialog Corp.
File 608:KR/T Bus.News. 1992-2003/Apr 04
         (c)2003 Knight Ridder/Tribune Bus News
File 112:UBM Industry News 1998-2003/Apr 04
         (c) 2003 United Business Media
File  16:Gale Group PROMT(R) 1990-2003/Apr 03
         (c) 2003 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File  47:Gale Group Magazine DB(TM) 1959-2003/Apr 02
         (c) 2003 The Gale group
File  80:TGG Aerospace/Def.Mkts(R) 1986-2003/Apr 02
         (c) 2003 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2003/Apr 03
         (c)2003 The Gale Group
File 634:San Jose Mercury  Jun 1985-2003/Apr 03
         (c) 2003 San Jose Mercury News
File 635:Business Dateline(R) 1985-2003/Apr 03
         (c) 2003 ProQuest Info&Learning
File 647:CMP  Computer Fulltext 1988-2003/Mar W2
         (c) 2003 CMP Media, LLC
File 674:Computer News Fulltext 1989-2003/Mar W5
         (c) 2003 IDG Communications
File 610:Business Wire 1999-2003/Apr 04
         (c) 2003 Business Wire.
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 696:DIALOG Telecom. Newsletters 1995-2003/Apr 02
         (c) 2003 The Dialog Corp.
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
? ds

Set     Items   Description
```

```
S1          720   MICROACTUATOR? OR MICRO()ACTUATOR?
S2            0   C()SHAP?(S)(PIEZOELECTRIC OR PIEZO()ELECTRIC)
S3            0   S2(5N)BIMORPH?
S4         3108   ENDS(S)APPROACH?(S)(MOV? OR OPPOSED OR SPACED OR SEPARAT? -
                  OR APART)
S5       100750   ELECTROMAGNET?
S6         5104   FERROMAGNET?
S7            0   SPLIT()RING(10N)S5
S8           94   HEAD()SUSPENSION
S9       389339   (DISK OR DISC?)(3N)DRIVE?
S10           1   AU=(SIVIDASAN, K? OR GUO G? OR SIVIDASAN K? OR GUO G?)
S11           0   S1(S)S4(S)S5(S)S6
S12          69   S9(S)S1
S13           0   S12(S)S5(S)S6
S14           7   S12(S)S8
S15           4   RD S14 (unique items)
S16           6   S12(S)(S5 OR S6)
S17           0   S16(S)S4
S18           3   RD S16 (unique items)
```

10/3,K/1 (Item 1 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

01557520
Implementing the policy of 'one country, two systems'
Guo Gang
Beijing Review (IBEI), v32 n52, p16-20
Dec 25, 1989
ISSN: 1000-9140 JOURNAL CODE: IBEI
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Abstract
LENGTH: Long (31+ col inches)

Guo Gang

15/3,K/1 (Item 1 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter

13075649 (USE FORMAT 7 OR 9 FOR FULLTEXT)
STMicroelectronics Announces DSP-Enhanced ST10 Microcontroller Core Targeting Disk Drive, Automotive and Consumer Applications
BUSINESS WIRE
September 29, 2000
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 645

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... two-stage head positioning servos, where fine tracking is performed using a microactuator on the **head suspension** .
Fast response to interrupts is achieved due to two local register banks in the Super10...

15/3,K/2 (Item 1 from file: 88)
DIALOG(R)File 88:Gale Group Business A.R.T.S.

05058203 SUPPLIER NUMBER: 54257516
Dual-stage actuator system for magnetic disk drives using a shear mode piezoelectric microactuator. (Selected Papers from the Second Asia-Pacific Magnetic Recording Conference (APMRC '98))
Koganezawa, S.; Uematsu, Y.; Yamada, T.; Nakano, H.; Inoue, J.; Suzuki, T.
IEEE Transactions on Magnetics, 35, 2, 988(5)
March, 1999
ISSN: 0018-9464 LANGUAGE: English RECORD TYPE: Abstract

AUTHOR ABSTRACT: We developed a novel piezoelectric microactuator for dual-stage actuator systems in magnetic **disk drives** . This **microactuator** is based on the shear deformation of piezoelectric elements, and drives the **head suspension** assembly. The actuator is suitable for thin devices, and is easily manufactured because of its simple stack configuration. We installed the **microactuator** in a 2.5(inches) prototype drive, and evaluated the servo system of the dual...

15/3,K/3 (Item 2 from file: 88)
DIALOG(R)File 88:Gale Group Business A.R.T.S.

04868615 SUPPLIER NUMBER: 21010720
Shear mode piezoelectric microactuator for magnetic disk drives.
Koganezawa, S.; Uematsu, Y.; Yamada, T.; Nakano, H.; Inoue, J.; Suzuki, T.
IEEE Transactions on Magnetics, v34, n4, p1910(3)
July, 1998
ISSN: 0018-9464 LANGUAGE: English RECORD TYPE: Abstract

AUTHOR ABSTRACT: We developed a new piezoelectric microactuator for dual-stage actuator systems in magnetic **disk drives** . This actuator exploits the shear mode of piezoelectric elements and drives the **head suspension** assembly. This paper describes the structure of our piezoelectric actuator, its mechanical characteristics, and the...

...driving the piezoelectric elements in an atmosphere of high temperature

and humidity. Index Terms - Magnetic **disk drives , micro - actuator ,** piezoelectric actuator, shear mode.

15/3,K/4 (Item 1 from file: 610)
DIALOG(R)File 610:Business Wire

00374378 20000929273B0783 (USE FORMAT 7 FOR FULLTEXT)
STMicroelectronics Announces DSP-Enhanced ST10 Microcontroller Core Targeting Disk Drive, Automotive and Consumer Applications-New core more than doubles performance of proven ST10 architecture and allows re-use of existing...
Business Wire
Friday, September 29, 2000 10:20 EDT
JOURNAL CODE: BW LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 644

TEXT:
...more advanced system-on-chip applications.

The Super10 core primarily targets control applications in hard **disk drives ,**
automotive and consumer where DSP algorithms are needed to achieve the required performance. In a hard **disk drive** , for example, the addition of a
true DSP and advanced interrupt handling with fast context...
...concepts such as two-stage head positioning servos,
where fine tracking is performed using a **microactuator** on the **head suspension** .
?

18/3,K/1 (Item 1 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter

18820933 (USE FORMAT 7 OR 9 FOR FULLTEXT)
STMicroelectronics to Present MEMS Microactuator for Dual Servo Disk Drives at Diskcon 2001
BUSINESS WIRE
September 14, 2001
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 526

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... design and packaging that protects the moving parts from contamination but allows movement. Compared to **electromagnetic** actuation, ST's electrostatic solution avoids magnetic fields close to the disk surface. Thanks to...

18/3,K/2 (Item 1 from file: 88)
DIALOG(R)File 88:Gale Group Business A.R.T.S.

04741560 SUPPLIER NUMBER: 20603512
Dual stage actuators for high density rotating memory devices.(Asia-Pacific Data Storage Conference)
Guo, W.; Weerasooriya, S.; Goh, T.B.; Li, Q.H.; Bi, C.; Chang, K.T.; Low, T.S.
IEEE Transactions on Magnetics, v34, n2, p450(6)
March, 1998
ISSN: 0018-9464 LANGUAGE: English RECORD TYPE: Abstract

...AUTHOR ABSTRACT: to the recording head. Several dual-stage configurations have been proposed using electrostatic, piezoelectric and **electromagnetic** secondary actuators. The paper proposes a piezoelectric stack **micro - actuator** design for a **disk drive** . It preserves the present suspension and head assembly. A prototype of the actuator is designed...

18/3,K/3 (Item 1 from file: 610)
DIALOG(R)File 610:Business Wire

00584931 20010914257B7280 (USE FORMAT 7 FOR FULLTEXT)
STMicroelectronics to Present MEMS Microactuator for Dual Servo Disk Drives at Diskcon 2001-Silicon Micromachined Rotational Actuator Device Allows Finer Head Positioning, Increasing Tracks-per-Inch and Areal Density
Business Wire
Friday, September 14, 2001 09:01 EDT
JOURNAL CODE: BW LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 512

...voltages applied to a stator and rotor cause angular movements of the rotor.
In the **disk drive** application the read/write head is attached to this rotor
through special design and packaging that protects the moving parts from

contamination but allows movement. Compared to **electromagnetic** actuation, ST's
electrostatic solution avoids magnetic fields close to the disk surface.
Thanks to...
?

```
File   2:INSPEC 1969-2003/Mar W4
         (c) 2003 Institution of Electrical Engineers
File   6:NTIS 1964-2003/Mar W5
         (c) 2003 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2003/Mar W4
         (c) 2003 Elsevier Eng.  Info. Inc.
File  34:SciSearch(R) Cited Ref Sci 1990-2003/Mar W5
         (c) 2003 Inst for Sci Info
File  35:Dissertation Abs Online 1861-2003/Mar
         (c) 2003 ProQuest Info&Learning
File  65:Inside Conferences 1993-2003/Mar W5
         (c) 2003 BLDSC all rts. reserv.
File  94:JICST-EPlus 1985-2003/Mar W5
         (c)2003 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2003/Mar W3
         (c) 2003 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2003/Feb
         (c) 2003 The HW Wilson Co.
File 144:Pascal 1973-2003/Mar W4
         (c) 2003 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 603:Newspaper Abstracts 1984-1988
         (c)2001 ProQuest Info&Learning
File 483:Newspaper Abs Daily 1986-2003/Apr 02
         (c) 2003 ProQuest Info&Learning
? ds

Set     Items   Description
S1       9606   MICROACTUATOR? OR MICRO()ACTUATOR?
S2         15   C()SHAP? AND (PIEZOELECTRIC OR PIEZO()ELECTRIC)
S3          5   S2 AND BIMORPH?
S4        556   ENDS AND APPROACH? AND MOV?
S5    1991967   OPPOSED OR SPACED OR SEPARAT?
S6     743048   ELECTROMAGNET?
S7     228925   FERROMAGNET?
S8         54   SPLIT()RING AND S6
S9        192   HEAD()SUSPENSION
S10     38155   (DISK OR DISC?)(3N)DRIVE?
S11      1435   AU=(SIVIDASAN, K? OR GUO G? OR SIVIDASAN K? OR GUO G?)
S12         0   S1 AND S2
S13         5   RD S3 (unique items)
S14         0   S4 AND S5 AND S8 AND S7
S15         0   S1 AND S4 AND S5 AND S8
S16       102   S9 AND S10
S17         0   S16 AND S2
S18        10   S2 NOT S3
S19        10   RD S18 (unique items)
S20         9   S11 AND S1
S21         9   RD S20 (unique items)
S22         0   S1 AND S4 AND S5
S23         0   S1 AND S8
S24      1862   END()FACE
S25         1   S24 AND S1
S26        26   S1 AND S7 AND (S6 OR S8)
S27         1   S26 AND (PIEZOELECTRIC OR PIEZO()ELECTRIC)
```

13/3,K/1 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14274443 PASCAL No.: 99-0478993
Elasticity solution of polymeric piezoelectric **C-block composite actuator**
HAOZHONG GU; CHATTOPADHYAY A
Department of Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ 85287-6106, United States
Journal: Journal of intelligent material systems and structures, 1998, 9 (9) 704-712
Language: English

Elasticity solution of polymeric piezoelectric **C-bl**ock composite **actuator**
An elasticity solution is developed to investigate the mechanical behavior of polymeric **piezoelectric** C-block composite actuators, which were recently proposed to overcome the limitations of conventional **bimorph** and stack configurations. The stress functions are used to derive the general equations governing the...

English Descriptors: **Piezoelectric** actuators; Curved beam; **C shape ;** Composite materials; Layered materials; Polymers; Modelling; Constitutive equation

13/3,K/2 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

13804555 PASCAL No.: 98-0519315
Modeling of multilayered C-block actuators
Smart structures and integrated systems : San Diego CA, 2-5 March 1998
CHATTOPADHYAY A; MITCHELL L; HAOZHONG GU
REGELBRUGGE Marc E, ed
Department of Mechanical and Aerospace Engineering, Arizona State University, Tempe, Arizona 85287-6106, United States
International Society for Optical Engineering, Bellingham WA, United States.
Smart structures and integrated systems. Conference (San Diego CA USA) 1998-03-02
Journal: SPIE proceedings series, 1998, 3329 (p.1) 647-658
Language: English

A new class of **bimorph** actuators, called C-block actuators for their curved shape, have recently been proposed to provide improved performance characteristics over conventional straight **bimorph** actuators. Existing mathematical models of these actuators are based on classical curved beam theory which...
... shear deformation based theory model accounts for through-the-thickness transverse shear stresses in thick **piezoelectric** C-block actuators. The results obtained from the first order shear deformation theory are validated...

English Descriptors: Actuators; **Piezoelectric** devices; **C shape ;**

Curved beam; Modelling; Finite element method; Experimental study; **Bimorph** transducer

13/3,K/3 (Item 3 from file: 144)
DIALOG(R)File 144:Pascal

13447124 PASCAL No.: 98-0141755
Quasi-static behavior of individual C-block piezoelectric **actuators**
MOSKALIK A J; BREI D
Department of Mechanical Engineering and Applied Mechanics, The University of Michigan, 2250 G. G. Brown, Ann Arbor, MI 48109-2125, United States
Journal: Journal of intelligent material systems and structures, 1997, 8 (7) 571-587
Language: English

Quasi-static behavior of individual C-block piezoelectric **actuators**
Most **piezoelectric** actuators used in smart structure applications are either stiff stacks which produce high forces and...

... as a mid-range actuator. A C-block is a semicircular composite bender actuated with **piezoelectric** layers. It can be combined in series and/or parallel to increase actuator deflection and...

... experimentally verified with three case studies: PZT-8 and PZT-5H ceramic unimorphs; PVdF polymeric **bimorphs** ; and four-layer PVdF polymeric multimorphs. The results from these case studies confirm that C...

English Descriptors: Actuators; Force control; Quasi static theory; **Piezoelectric** devices; **C shape** ; Multilayers; Piezoceramic materials; Polymers; Numerical method; Constitutive equation; Experimental study

13/3,K/4 (Item 4 from file: 144)
DIALOG(R)File 144:Pascal

13275097 PASCAL No.: 97-0549423
Improved modeling of C-block actuators
Smart structures and integrated systems : San Diego CA, 3-6 March 1997
MITCHELL L A; GU H; CHATTOPADHYAY A
REGELBRUGGE Marc E, ed
Department of Mechanical and Aerospace Engineering, Arizona State University , Tempe, AZ 85287-6106 , United States
Smart structures and integrated systems. Conference (San Diego CA USA) 1997-03-03
Journal: SPIE proceedings series, 1997, 3041 470-481
Language: English

A new class of **bimorph** actuators, called C-block actuators for their curved shape, have recently been proposed to provide improved performance characteristics over conventional straight **bimorph** actuators. Existing mathematical models of these actuators are based on classical curved beam theory which...

English Descriptors: Actuators; **C shape ; Piezoelectric** device; Curved beam; Adhesive joint; Vinylidene fluoride polymer; Numerical method; **Bimorph** transducer

...French Descriptors: en C; Dispositif piezoelectrique; Poutre courbe; Assemblage colle; Vinylidene fluorure polymere; Methode numerique; 0707M; Transducteur **bimorphe**

13/3,K/5 (Item 5 from file: 144)
DIALOG(R)File 144:Pascal

12559361 PASCAL No.: 96-0240172
Development of a polymeric piezoelectric **C-block actuator using hybrid optimization technique**
SEELEY C E; CHATTOPADHYAY A; BREI D
Department of Mechanical Engineering and Aerospace Engineering, Arizona State University, Tempe, Arizona 85287, United States
AIAA : American Institute of Aeronautics and Astronautics/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference (New Orleans, LA USA) 1995-04-10
Journal: AIAA journal, 1996, 34 (1) 123-128
Language: English

Development of a polymeric piezoelectric **C-block actuator using hybrid optimization technique**
A new class of polymeric **piezoelectric bimorph** actuators, called C-blocks because of their curved shape, has been developed to overcome limitations of conventional **bimorph** and stack **piezoelectric** configurations. Design tradeoffs are investigated in the current research using various performance criteria such as...

English Descriptors: Actuators; Simulated annealing; Polymers; Piezoelectricity; Optimization; Numerical methods; **C shape ;** Vinylidene fluoride polymer; Vibration control
?

19/3,K/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

01817320 INSPEC Abstract Number: A82027362, B82013871
Title: Significance of the acoustic emission technique in monitoring cleavage controlled instability
Author(s): Khan, M.A.; Shoji, T.; Takahashi, H.
Author Affiliation: Dept. of Mech. Engng., Tohoku Univ., Sendai, Japan
Journal: Res Mechanica Letters vol.1, no.3 p.133-8
Publication Date: March 1981 Country of Publication: UK
CODEN: RMLED3 ISSN: 0144-7831
Language: English
Subfile: A B

Abstract: Fracture toughness tests on compact tension (CT) and **C - shaped** specimens of steel were performed. AE was detected with a broad band **piezoelectric** transducer (NF, AE 905) with a resonance frequency of 1 MHz. The electrical signal from...
...Identifiers: **C - shaped** specimens...

...broad band **piezoelectric** transducer

19/3,K/2 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05613952 E.I. No: EIP00085269606
Title: Crystal structures of Ba//2R//2/////3V//2O//8 (R equals La, Nd) and Sr//2La//2/////3V//2O//8; Palmierite derivatives
Author: Skakle, J.M.S.; Coats, A.M.; Marr, J.
Corporate Source: Univ of Aberdeen, Aberdeen, UK
Source: Journal of Materials Science v 35 n 13 2000. p 3251-3256
Publication Year: 2000
CODEN: JMTSAS ISSN: 0022-2461
Language: English

...Abstract: 2La//2/////3V//2O//8, synthesized by solid state reaction of oxides at 1350 degree **C** , have structures derived from that of the palmierite-type of Ba//3V//2O//8; the...

...5) angstroms, Z equals 3; cation ordering was determined by joint Rietveld refinement using X- **ray** and neutron powder diffraction data, R//w//p equals 4.45%, R//p equals 6...
Descriptors: Oxides; Barium compounds; Strontium **compounds** ; Derivatives ; Crystal structure; Stoichiometry; Synthesis (chemical); Chemical bonds; X ray powder diffraction; Neutron diffraction

19/3,K/3 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04520420 Genuine Article#: TK128 No. References: 23
Title: IN-SITU SCANNING-TUNNELING-MICROSCOPY ON VAPOR-DEPOSITED POLYANILINE THIN-FILMS
Author(s): CORNELISON DM; DILLINGHAM TR; BULLOCK E; BENALLY NT; TOWNSEND SW
Corporate Source: NO ARIZONA UNIV,DEPT PHYS & ASTRON/FLAGSTAFF//AZ/86011
Journal: SURFACE SCIENCE, 1995, V343, N1-2 (DEC 1), P87-94

ISSN: 0039-6028
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: 200 Angstrom were observed. Some internal structure of the polymer conglomerates was resolved, revealing a '' **C** '' **shaped** cluster with a central depression. In some instances, a boundary between these clusters and long...
Research Fronts: 93-0054 003 (EMERALDINE BASE OF POLYANILINE; HYDROXYANILINE THIN-FILMS; **PIEZOELECTRIC** QUARTZ CRYSTAL IN CONTACT; ACOUSTIC-WAVE MICROSENSORS; CHEMICAL OXIDATION)
93-3491 001 (CONDUCTING POLYMERS; COMPOSITE...

19/3,K/4 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

15137067 PASCAL No.: 01-0299676
Dynamic performance of C-block array architectures
MOSKALIK A J; BREI D
U.S. EPA - National Vehicle and Fuel Emissions Laboratory, 2000 Traverwood Dr., Ann Arbor, MI 48105, United States; Department of Mechanical Engineering, The University of Michigan, 2250 G. G. Brown Building, 2350 Hayward St., Ann Arbor, MI 48109-2125, United States
Journal: Journal of sound and vibration, 2001, 243 (2) 317-346
Language: English

...stack architectures and the force limitations of bender architectures. Because these actuators are based upon **piezoelectric** materials, they are well suited for high bandwidth dynamic applications. This paper presents an investigation...

... performance of a generic C-block actuator for a given application which requires a midrange **piezoelectric** actuator.

English Descriptors: Intelligent structures; Actuators; **Piezoelectric** materials; Performance evaluation; Dynamic method; Intelligent system; Buildings; Experimental study; Analytical method; Transfer matrix; Prototype; **Piezoelectric** actuators; Modelling; Bandwidth; **C shape** ; Structure factors

19/3,K/5 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

14540379 PASCAL No.: 00-0205221
Mechatronic design and control of singly and doubly curved composite mesoscale actuator systems
SONG J K; WASHINGTON G
The authors are with the Intelligent Structures and System Laboratory, The Ohio State University, Columbus, OH 43210-1107, United States
Journal: IEEE/ASME transactions on mechatronics, 2000, 5 (1) 49-57
Language: English

English Descriptors: **Piezoelectric** actuators; Mesoscale; Double curvature

; **C shape** ; Modelling; Thin shell; Equations of motion; Control synthesis; Interface circuit; Integral proportional regulator; Rainbow actuator

19/3,K/6 (Item 3 from file: 144)
DIALOG(R)File 144:Pascal

14321984 PASCAL No.: 99-0529833
Force-deflection behavior of piezoelectric **C-block actuator arrays**
MOSKALIK A J; BREI D
U.S. EPA-National Vehicle and Fuel Emissions Lab, 2000 Traverwood Drive, Ann Arbor, MI 48105, United States; Department of Mechanical Engineering and Applied Mechanics, 2250 G G Brown Building, 2350 Hayward Street, The University of Michigan, Ann Arbor, MI 48109-2125, United States
Journal: Smart materials and structures, 1999, 8 (5) 531-543
Language: English

Force-deflection behavior of piezoelectric **C-block actuator arrays**

English Descriptors: **Piezoelectric** actuators; **Piezoelectric** devices; **C shape** ; Transducer network; Modelling; Experimental study; Test equipment; Vinylidene fluoride polymer; Piezoceramic materials

19/3,K/7 (Item 4 from file: 144)
DIALOG(R)File 144:Pascal

14043864 PASCAL No.: 99-0233964
Analytical dynamic performance modeling for individual C-block actuators
MOSKALIK A J; BREI D
Department of Mechanical Engineering and Applied Mechanics, The University of Michigan, 2250 G. G. Brown Building, 2350 Hayward St., Ann Arbor MI 48109-2125, United States
Journal: Journal of vibration and acoustics, 1999, 121 (2) 221-230
Language: English

C-blocks are mid-range **piezoelectric** actuators that show promise for use in dynamic applications, such as noise and vibration control...

English Descriptors: **Piezoelectric** actuators; **C shape** ; Modelling; Equations of motion; Dynamic model; Hamilton principle; Experimental study; Test equipment; Vibration control; Noise control; Active system; **Piezoelectric** devices

19/3,K/8 (Item 5 from file: 144)
DIALOG(R)File 144:Pascal

13979649 PASCAL No.: 99-0162868
Parametric investigation of the deflection performance of serial piezoelectric **C-block actuators**
Third US Army Research Office workshop on smart structures

MOSKALIK A J; BREI D
WERELEY Norman M, ed
Department of Mechanical Engineering and Applied Mechanics The University of Michigan, 2250 G. G. Brown Building, Ann Arbor, MI 48109-2125, United States
Smart Structures Laboratory, Alfred Gessow Rotorcraft Center, University of Maryland, College Park, MD 20742, United States
US Army Research Office, Research Triangle Park, NC, United States.
US Army Research Office Workshop on Smart Structures, 3 (Blacksburg, VA USA)
Journal: Journal of intelligent material systems and structures, 1998, 9 (3) 223-231
Language: English

Parametric investigation of the deflection performance of serial piezoelectric **C-block actuators**
This paper presents an investigation of the deflection performance of serial configurations of C-block **piezoelectric** actuators. To conduct the investigation both a theoretical and an experimental approach were used. A ...

English Descriptors: **Piezoelectric** actuators; **Piezoelectric** devices; **C shape** ; Deflection; Piezoceramic materials; Polymers; Modelling; Experimental study; Test equipment; Active system; Intelligent system

19/3,K/9 (Item 6 from file: 144)
DIALOG(R)File 144:Pascal

13275098 PASCAL No.: 97-0549424
Frequency-amplitude response of individual polyvinylidene fluoride piezoelectric **C-block actuators**
Smart structures and integrated systems : San Diego CA, 3-6 March 1997
MOSKALIK A J; BREI D
REGELBRUGGE Marc E, ed
Department of Mechanical Engineering and Applied Mechanics, The University of Michigan, 2350 Hayward St., Ann Arbor MI 48109-2125 , United States
Smart structures and integrated systems. Conference (San Diego CA USA) 1997-03-03
Journal: SPIE proceedings series, 1997, 3041 482-495
Language: English

Frequency-amplitude response of individual polyvinylidene fluoride piezoelectric **C-block actuators**
...for high-force, high-displacement actuators. C-blocks, created to meet this need, are curved **piezoelectric** laminated beams poled in the radial direction which flex when voltage is applied. C-blocks...
... derived using Hamilton's principle to formulate the equations of motion for a general composite **piezoelectric** C-block, and solving the equations using the appropriate boundary conditions and **piezoelectric** forcing terms. To verify the model, **piezoelectric** polymeric C-block prototypes were fabricated and displacement amplitudes were experimentally determined across a range...

English Descriptors: Actuators; Vinylidene fluoride polymer; Intelligent system; Curved beam; **C shape** ; Composite materials; Layered materials; **Piezoelectric** device; Numerical method; Hamiltonian mechanics; Modal analysis; Eigenfrequency; Equations of motion; Vibration

19/3,K/10 (Item 7 from file: 144)
DIALOG(R)File 144:Pascal

12961836 PASCAL No.: 97-0237939
Deflection performance of a bi-directional distributed polymeric piezoelectric **micromotor**
BREI D; MOSKALIK A J
Department of Mechanical Engineering and Applied Mechanics, The University of Michigan, Ann Arbor, MI 48109-2125, United States
Journal: Journal of microelectromechanical systems, 1997, 6 (1) 62-69
Language: English

Deflection performance of a bi-directional distributed polymeric piezoelectric **micromotor**
Distributed **piezoelectric** micromotor architectures have great potential because they combine the advantages of **piezoelectric** micromotors with the advantages of distributed architectures. However, to use a distributed architecture paradigm for **piezoelectric** micromotors, a basic motor building block is needed. To meet this need a **piezoelectric** micromotor building block, called a C-block, was developed. These C-blocks can be combined...
... a variety of distributed architectures to expand their capabilities. This paper introduces a basic polymeric **piezoelectric** C-block micromotor design and a serial C-block micromotor architecture that demonstrates increased deflection...

... results demonstrate the accuracy of the models and the feasibility of designing and fabricating polymeric **piezoelectric** micromotor architectures.

English Descriptors: Buildings; Piezoelectricity; Production design; Fabrication; Analytical method; Deflection; Prototype; Micromotor; **Piezoelectric** sensor; Distributed parameter system; **C shape** ; Bimetals; Production process; Theoretical study; Experimental result; Voltage control; Performance characteristic; Research and development
?

21/3,K/1 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

11108450 Genuine Article#: 608VE No. References: 8
Title: Midfrequency disturbance suppression via micro - actuator **in dual-stage HDDs**
Author(s): Wu DW (REPRINT) ; **Guo GX** ; Chong TC
Corporate Source: Data Storage Inst,Singapore 117608//Singapore/ (REPRINT); Data Storage Inst,Singapore 117608//Singapore/
Journal: IEEE TRANSACTIONS ON MAGNETICS, 2002, V38, N5,1 (SEP), P2189-2191
ISSN: 0018-9464 Publication date: 20020900
Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST, NEW YORK, NY 10017-2394 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Title: Midfrequency disturbance suppression via micro - actuator **in dual-stage HDDs**
Author(s): Wu DW (REPRINT) ; **Guo GX** ; Chong TC

21/3,K/2 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

11108448 Genuine Article#: 608VE No. References: 7
Title: Dual-stage servo with on-slider PZT microactuator **for hard disk drives**
Author(s): Lou YL (REPRINT) ; Gao P; Qin B; **Guo GX** ; Ong EH; Takada A; Okada K
Corporate Source: Sony Elect,Singapore Res Lab,Singapore//Singapore/ (REPRINT); Sony Elect,Singapore Res Lab,Singapore//Singapore/; Data Storage Inst,Mechatron & Micro Syst Grp,Singapore//Singapore/
Journal: IEEE TRANSACTIONS ON MAGNETICS, 2002, V38, N5,1 (SEP), P2183-2185
ISSN: 0018-9464 Publication date: 20020900
Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST, NEW YORK, NY 10017-2394 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Title: Dual-stage servo with on-slider PZT microactuator **for hard disk drives**
Author(s): Lou YL (REPRINT) ; Gao P; Qin B; **Guo GX** ; Ong EH; Takada A; Okada K
Abstract: A dual-stage servo system with an on-slider piezoelectric (PZT) **micro - actuator** is developed for future high-density hard disk drives. The parallel control scheme is used in servo design with considerations over the stroke limitation and the hysteresis of the **microactuator** . Experimental results on a spin-stand with a laser Doppler vibrometer as the position sensor...

21/3,K/3 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09768055 Genuine Article#: 445TZ No. References: 25
Title: Optimal track-following design for the highest tracks per inch in hard disk drives
Author(s): Li ZM (REPRINT) ; **Guo GX** ; Chen BM; Lee TH
Corporate Source: Natl Univ Singapore,Dept Elect Engn,Singapore

119260//Singapore/ (REPRINT); Natl Univ Singapore,Dept Elect Engn,Singapore 119260//Singapore/; Data Storage Inst,Singapore 117608//Singapore/
Journal: JOURNAL OF INFORMATION STORAGE AND PROCESSING SYSTEMS, 2001, V3, N1-2 (JAN-APR), P27-41
ISSN: 1099-8047 Publication date: 20010100
Publisher: BIRKHAUSER BOSTON INC, 675 MASSACHUSETTS AVE, CAMBRIDGE, MA 02139 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): Li ZM (REPRINT) ; **Guo GX** ; Chen BM; Lee TH
...Identifiers-- **MICROACTUATOR**; ENHANCEMENT; CONTROLLER; BUDGET; TPI

21/3,K/4 (Item 4 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

09576960 Genuine Article#: 421ZR No. References: 24
Title: A dual-stage control design for high track per inch hard disk drives
Author(s): **Guo GX (REPRINT)** ; Hao Q; Low TS
Corporate Source: Data Storage Inst,Singapore 117608//Singapore/ (REPRINT); Data Storage Inst,Singapore 117608//Singapore/
Journal: IEEE TRANSACTIONS ON MAGNETICS, 2001, V37, N2,1 (MAR), P860-865
ISSN: 0018-9464 Publication date: 20010300
Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST, NEW YORK, NY 10017-2394 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): **Guo GX (REPRINT)** ; Hao Q; Low TS
...Identifiers--TMR; **MICROACTUATOR**

21/3,K/5 (Item 5 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

09478639 Genuine Article#: 409EN No. References: 11
Title: Modified adaptive feedforward runout compensation for dual-stage servo system
Author(s): Zhang JL (REPRINT) ; Chen RF; **Guo GX** ; Low TS
Corporate Source: Data Storage Inst,Singapore 117608//Singapore/ (REPRINT); Data Storage Inst,Singapore 117608//Singapore/
Journal: IEEE TRANSACTIONS ON MAGNETICS, 2000, V36, N5,1 (SEP), P3581-3584
ISSN: 0018-9464 Publication date: 20000900
Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST, NEW YORK, NY 10017-2394 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): Zhang JL (REPRINT) ; Chen RF; **Guo GX** ; Low TS
...Abstract: runout can be effectively compensated or attenuated by assigning runout components to VCM actuator and **microactuator** properly.

21/3,K/6 (Item 6 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

09478230 Genuine Article#: 409EN No. References: 8

Title: Adaptive compensation of microactuator **resonance in hard disk drives**
Author(s): Wu DW (REPRINT) ; **Guo GX** ; Chong TC
Corporate Source: Data Storage Inst,Singapore 117608//Singapore/ (REPRINT); Data Storage Inst,Singapore 117608//Singapore/
Journal: IEEE TRANSACTIONS ON MAGNETICS, 2000, V36, N5,1 (SEP), P2247-2250
ISSN: 0018-9464 Publication date: 20000900
Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST, NEW YORK, NY 10017-2394 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Title: Adaptive compensation of microactuator **resonance in hard disk drives**
Author(s): Wu DW (REPRINT) ; **Guo GX** ; Chong TC
Abstract: This article presents an adaptive resonance compensation scheme for **microactuator** -based dual-stage servo system in hard disk drives. The approach is to identify the **microactuator** resonant modes and compensate the model accordingly to a simpler one by pole-zero cancellation...
...resonant mode variations. Simulation and experiment results show that this adaptive compensation scheme can suppress **microactuator** resonance without priori knowledge of the resonant modes, This approach makes the servo control system robust against **microactuator** resonance variations.

21/3,K/7 (Item 7 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

09478228 Genuine Article#: 409EN No. References: 6
Title: A PZT micro-actuated suspension for high TPI hard disk servo systems
Author(s): Niu YM (REPRINT) ; Guo W; **Guo GX** ; Ong EH; Sivadasan KK; Huang T
Corporate Source: Data Storage Inst,DSI Bldg/Singapore 117608//Singapore/ (REPRINT); Data Storage Inst,Singapore 117608//Singapore/
Journal: IEEE TRANSACTIONS ON MAGNETICS, 2000, V36, N5,1 (SEP), P2241-2243
ISSN: 0018-9464 Publication date: 20000900
Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST, NEW YORK, NY 10017-2394 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): Niu YM (REPRINT) ; Guo W; **Guo GX** ; Ong EH; Sivadasan KK; Huang T
...Abstract: suspension for high TPI (Tracks per inch) hard disk drives is presented. Two reinforced piezoelectric **microactuators** , placed in parallel between the base plate and the spring beam, are used for the ...
...Identifiers-- **MICROACTUATOR**; DRIVES

21/3,K/8 (Item 8 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

08986274 Genuine Article#: 352RK No. References: 10
Title: TMR-oriented optimization of suspension-based milliactuators
Author(s): Hu XP; Niu YM; **Guo GX** ; Huang T (REPRINT)
Corporate Source: DATA STORAGE INST,SERVO ELECT GRP, 5 ENGN DR 1/SINGAPORE 117608//SINGAPORE/ (REPRINT); DATA STORAGE INST,SERVO ELECT

GRP/SINGAPORE 117608//SINGAPORE/
Journal: JOURNAL OF INFORMATION STORAGE AND PROCESSING SYSTEMS, 2000, V2, N3 (JUL), P163-168
ISSN: 1099-8047 Publication date: 20000700
Publisher: BIRKHAUSER BOSTON INC, 675 MASSACHUSETTS AVE, CAMBRIDGE, MA 02139
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): Hu XP; Niu YM; **Guo GX** ; Huang T (REPRINT)
...Identifiers--DISK DRIVES; **MICROACTUATOR**; SYSTEM

21/3,K/9 (Item 9 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

08557404 Genuine Article#: 300FB No. References: 15
Title: Piezoelectrically actuated suspension for hard disk drives
Author(s): Niu YM (REPRINT) ; Guo W; **Guo GX** ; Ong EH; Huang T
Corporate Source: DATA STORAGE INST,ENGN DR 1/SINGAPORE 117608//SINGAPORE/ (REPRINT)
Journal: JOURNAL OF INFORMATION STORAGE AND PROCESSING SYSTEMS, 1999, V1, N4 (DEC), P321-327
ISSN: 1099-8047 Publication date: 19991200
Publisher: BIRKHAUSER BOSTON INC, 675 MASSACHUSETTS AVE, CAMBRIDGE, MA 02139
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): Niu YM (REPRINT) ; Guo W; **Guo GX** ; Ong EH; Huang T
Abstract: This paper presents a new piezoelectrically actuated suspension design with two parallel **microactuators** placed in between the baseplate and the spring beam. Each **microactuator** consists of two piezoelectric plates sandwiched by a meander-line spring. Two important design issues...
?

25/3,K/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

5705556 INSPEC Abstract Number: B9711-6260-070
Title: Micro-optical and opto-mechanical systems fabricated by the LIGA technique
Author(s): Mohr, J.; Gottert, J.; Muller, A.; Ruther, P.; Wengeling, K.
Author Affiliation: Inst. fur Mikrostrukturtechnik, Forschungszentrum Karlsruhe, Germany
Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3008 p.273-8
Publisher: SPIE-Int. Soc. Opt. Eng,
Publication Date: 1997 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
SICI: 0277-786X(1997)3008L.273:MOOM;1-Z
Material Identity Number: C574-97108
U.S. Copyright Clearance Center Code: 0 8194 2419 6/97/$10.00
Conference Title: Miniaturized Systems with Micro-Optics and Micromechanics II
Conference Sponsor: SPIE
Conference Date: 10-12 Feb. 1997 Conference Location: San Jose, CA, USA
Language: English
Subfile: B

...Abstract: is fabricated on the substrate together with the fixing elements. This movable mirror is the **end face** of an electrostatic actuator which allows movement of the mirror into the collimated light beam ...
...Descriptors: **microactuators** ;
?

27/3,K/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03485030 E.I. Monthly No: EIM9209-044433
Title: 3rd International Symposium on the Application of Electromagnetic **Forces.**
Author: Anon (Ed.)
Conference Title: 3rd International Symposium on the Application of Electromagnetic Forces
Conference Location: Sendai, Jpn Conference Date: 19910128
E.I. Conference No.: 16543
Source: International Journal of Applied Electromagnetics in Materials v 2 n 4 Apr 1992. Publ by Elsevier Science Publ BV (North-Holland), Amsterdam, Neth. p 281-382
Publication Year: 1992
CODEN: 222208 ISSN: 0925-2096
Language: English

Title: 3rd International Symposium on the Application of Electromagnetic **Forces.**
Abstract: This issue of the journal contains 12 papers on applications of **electromagnetic** forces. Topics discussed include a new technique for the fabrication of **microactuators** , a linear ultrasonic motor using multibeam **piezoelectric** vibrators, magnetically stabilized Benard convection, magnetic field effects on an oscillatory pipe flow of magnetic fluid, a solution of the 3-D eddy current problem, chaotic vibrations of a buckled **ferromagnetic** beam, surface acoustic wave propagation in a stressed-medium force sensor, the **electromagnetic** force field in deformable conductors, a new linear induction motor for MAGLEV trains, a magnetization model for computation magnetodynamics, noninteractive control of an active magnetic bearing, and the **electromagnetic** forces on a magnet switch for a coaxial-type automotive starting motor. All papers are...
Descriptors: **ELECTROMAGNETIC** FIELD EFFECTS...
Identifiers: **ELECTROMAGNETIC** FORCE APPLICATIONS; **MICROACTUATORS** ; ULTRASONIC LINEAR MOTORS; MAGNETOELASTIC BUCKLING; ACTIVE MAGNETIC BEARINGS ; EIREV
?

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File 344:Chinese Patents Abs Aug 1985-2003/Jan
         (c) 2003 European Patent Office
File 347:JAPIO Oct 1976-2002/Nov(Updated 030306)
         (c) 2003 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2003/Mar W04
         (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030327,UT=20030320
         (c) 2003 WIPO/Univentio
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200322
         (c) 2003 Thomson Derwent
? ds

Set     Items   Description
S1        159   AU=(SIVIDASAN, K? OR GUO G? OR SIVIDASAN K? OR GUO G?)
S2          3   S1 AND MICROACTUATOR?
```

2/5,K/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

07249181 **Image available**
HEAD SUSPENSION ASSEMBLY FOR MAGNETIC DISK DRIVE

PUB. NO.: 2002-117638 [JP 2002117638 A]
PUBLISHED: April 19, 2002 (20020419)
INVENTOR(s): **SIVIDASAN KODIKKUNNATHUKULANGARA**
GUO GUOXIAO
APPLICANT(s): DATA STRAGE INST
APPL. NO.: 2000-377636 [JP 2000377636]
FILED: December 12, 2000 (20001212)
PRIORITY: 00 5436 [SG 5436], SG (Singapore), September 26, 2000 (20000926)
INTL CLASS: G11B-021/10; G11B-005/596; G11B-021/21; H02N-002/00

ABSTRACT
PROBLEM TO BE SOLVED: To provide a **microactuator** having a high moving distance with a high bandwidth and high impact resistance.

SOLUTION: The **microactuator** 30 positions read/write head for the head suspension assembly of a disk drive. The **microactuator** 30 is provided with a member with a substantially C-shape, having a first end 34 and a second end 38. Each end has one end surface, and an end surface 36 of the one end 34 faces the end surface 40 of the other separated end 38. The member is elastic and sensitive to magnetic field or electric field to be applied thereto. The distance between the end surfaces is controllable, by applying the magnetic field or the electric field.

INVENTOR(s): **SIVIDASAN KODIKKUNNATHUKULANGARA**
GUO GUOXIAO

ABSTRACT
PROBLEM TO BE SOLVED: To provide a **microactuator** having a high moving distance with a high bandwidth and high impact resistance.

SOLUTION: The **microactuator** 30 positions read/write head for the head suspension assembly of a disk drive. The **microactuator** 30 is provided with a member with a substantially C-shape, having a first end...

2/5,K/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014632885 **Image available**
WPI Acc No: 2002-453589/200248
XRPX Acc No: N02-357687
Microactuator **for hard disk drive, controls separation between end faces of piezoelectric bimorph expander, by applied electric or magnetic field**
Patent Assignee: DATA STORAGE INST (DATA-N); GUO G (GUOG-I); SIVIDASAN K (SIVI-I)
Inventor: GUOXIAO G; SIVADASAN K; **GUO G ; SIVIDASAN K**
Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020039261	A1	20020404	US 2001826173	A	20010404	200248	B
JP 2002117638	A	20020419	JP 2000377636	A	20001212	200248	
SG 92742	A1	20021119	SG 20005436	A	20000926	200303	

Priority Applications (No Type Date): SG 20005436 A 20000926
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020039261	A1		13	G11B-005/56	
JP 2002117638	A		9	G11B-021/10	
SG 92742	A1			G11B-021/10	

Abstract (Basic): US 20020039261 A1

NOVELTY - The **microactuator** (22) comprises a piezoelectric bimorph expander having end faces opposing each other. The expander is resilient such that the separation between end faces is controlled by applied magnetic or electric field.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Head suspension assembly;

(b) Magnetic disk drive

USE - **Microactuator** for moving read/write head relative to mounting region of head suspension assembly (claimed) of magnetic disk drive (claimed).

ADVANTAGE - Shock resistance is improved by piggy-back mounting arrangement of the assembly by providing required amplification at the trailing edge of head slider.

DESCRIPTION OF DRAWING(S) - The figure shows a perspective arrangement of the **microactuator** .

Microactuator (22)

pp; 13 DwgNo 5/9

Title Terms: HARD; DISC; DRIVE; CONTROL; SEPARATE; END; FACE; PIEZOELECTRIC ; BIMORPH; EXPAND; APPLY; ELECTRIC; MAGNETIC; FIELD
Derwent Class: T03; V06
International Patent Class (Main): G11B-005/56; G11B-021/10
International Patent Class (Additional): G11B-005/596; G11B-021/08; G11B-021/20; G11B-021/21; G11B-021/24; H02N-002/00
File Segment: EPI

Microactuator **for hard disk drive, controls separation between end faces of piezoelectric bimorph expander, by applied...**
...Inventor: **GUO G** ...

... **SIVIDASAN K**

Abstract (Basic):
... The **microactuator** (22) comprises a piezoelectric bimorph expander having end faces opposing each other. The expander is...
... **Microactuator** for moving read/write head relative to mounting region of head suspension assembly (claimed) of...

...The figure shows a perspective arrangement of the **microactuator** .
...

... **Microactuator** (22

2/5,K/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014418457 **Image available**
WPI Acc No: 2002-239160/200229
XRPX Acc No: N02-184411
Microactuator **driven load beam mechanism for use in head suspension assembly of magnetic disk drives, comprises load beam with pocket for retaining at least one end of piezoelectric beam**
Patent Assignee: DATA STORAGE INST (DATA-N)
Inventor: GUOXIAO G; SIVADASAN K; **GUO G**
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020008436	A1	20020124	US 2001898596	A	20010703	200229	B
SG 92724	A1	20021119	SG 20004124	A	20000724	200303	
US 6522050	B2	20030218	US 2001898596	A	20010703	200317	

Priority Applications (No Type Date): SG 20004124 A 20000724
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020008436	A1		10	H01L-041/53	
SG 92724	A1			G11B-005/55	
US 6522050	B2			H01L-041/08	

Abstract (Basic): US 20020008436 A1
NOVELTY - The mechanism includes a load beam (12) including a proximal end portion and a distal end portion, a hinge portion connecting the proximal and distal end portions of the load beam for permitting relative movement between them, and a piezoelectric beam (52) connecting the proximal and distal end portions. The piezoelectric beam is selectively energizable to effect relative movement between the proximal and distal end portions. The load beam includes a pocket (42) for holding at least one end of the piezoelectric beam.
USE - For head suspension assembly of magnetic disk drives.
ADVANTAGE - Piezoelectric beam and the pocket may be inclined relative to a hinge plane to control the load beam twist and minimize the altitude variations of the beam tip.
DESCRIPTION OF DRAWING(S) - The figure shows a perspective view of the load beam suspension.
load beam (12)
pocket (42)
piezoelectric beam (52)
pp; 10 DwgNo 2/7
Title Terms: DRIVE; LOAD; BEAM; MECHANISM; HEAD; SUSPENSION; ASSEMBLE; MAGNETIC; DISC; DRIVE; COMPRISE; LOAD; BEAM; POCKET; RETAIN; ONE; END; PIEZOELECTRIC; BEAM
Derwent Class: V06
International Patent Class (Main): G11B-005/55; H01L-041/08; H01L-041/53
International Patent Class (Additional): G11B-005/596
File Segment: EPI

Microactuator **driven load beam mechanism for use in head suspension assembly of magnetic disk drives, comprises...**
...Inventor: **GUO G**
?

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File 344:Chinese Patents Abs Aug 1985-2003/Jan
         (c) 2003 European Patent Office
File 347:JAPIO Oct 1976-2002/Nov(Updated 030306)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200322
         (c) 2003  Thomson Derwent
? ds

Set     Items   Description
S1        854   MICROACTUATOR? OR MICRO()ACTUATOR?
S2         37   C()SHAP? AND (PIEZOELECTRIC OR PIEZO()ELECTRIC)
S3          4   S2 AND BIMORPH?
S4       1890   ENDS AND APPROACH? AND MOV?
S5    1719819   OPPOSED OR SPACED OR SEPARAT?
S6     240817   ELECTROMAGNET?
S7      49880   FERROMAGNET?
S8         33   SPLIT()RING AND S6
S9        641   HEAD()SUSPENSION
S10     65145   (DISK OR DISC?)(3N)DRIVE?
S11    542529   IC=(G11B? OR H02N?)
S12         0   S1 AND S2
S13         0   S1 AND S4 AND S5 AND S6 AND S7
S14         0   S1 AND S8
S15         1   S8 AND S10
S16         0   S10 AND S2 AND S4 AND S5
S17      6711   S10 AND (S2 OR S4 OR S5)
S18         9   S17 AND S6 AND S7
S19         9   S18 NOT S15
S20         1   S10 AND S8
S21         0   S20 NOT (S15 OR S18)
S22     31487   S10 AND S11
S23       125   S1 AND S22
S24         1   S23 AND END()FACE?
S25         1   S24 NOT (S15 OR S18)
S26         0   S10 AND C()SHAP? AND S4 AND S5
S27        63   S10 AND C()SHAP?
S28         0   S27 AND S4 AND S5 AND S6
S29         0   S27 AND S6 AND S7
S30         6   S27 AND (S6 OR S7)
S31         6   S30 NOT (S24 OR S15 OR S18)
```

3/3,K/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

04213600 **Image available**
LENS SHIFTING DEVICE

PUB. NO.: 05-205300 [JP 5205300 A]
PUBLISHED: August 13, 1993 (19930813)
INVENTOR(s): NAGANO KATSUTO
KINOUCHI MITSURU
YAMASHITA NARIYOSHI
YAMAMOTO TAKASHI
APPLICANT(s): TDK CORP [000306] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-013812 [JP 9213812]
FILED: January 29, 1992 (19920129)
JOURNAL: Section: P, Section No. 1650, Vol. 17, No. 637, Pg. 87, November 25, 1993 (19931125)

JAPIO KEYWORD:R002 (LASERS); R005 (**PIEZOELECTRIC** FERROELECTRIC SUBSTANCES); R102 (APPLIED ELECTRONICS...

ABSTRACT

... a power supply section 3a. The section 2a is composed by joining a pair of **piezoelectric** plates 21a and 21a through a supporting plate 22, and is provided with a **bimorph** displacement element 23a that is bent/displaced into semi **C - shape** through voltage impression. Further an open hole section 24a is made in the respective centers...

... is held in the section 24a. When the element 23a is bent/displaced into semi **C - shape** , the center of the element 23a is displaced to a great extent and further the...

3/3,K/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

02434248 **Image available**
PRINTING HEAD OF WIRE DOT PRINTER

PUB. NO.: 63-051148 [JP 63051148 A]
PUBLISHED: March 04, 1988 (19880304)
INVENTOR(s): TAKAHASHI YUTAKA
TAKIMOTO MASAAKI
WATANABE KAZUO
APPLICANT(s): FUJI PHOTO FILM CO LTD [000520] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-194842 [JP 86194842]
FILED: August 20, 1986 (19860820)
JOURNAL: Section: M, Section No. 723, Vol. 12, No. 269, Pg. 52, July 27, 1988 (19880727)

JAPIO KEYWORD:R005 (**PIEZOELECTRIC** FERROELECTRIC SUBSTANCES); R124 (CHEMISTRY...

ABSTRACT

... printing speed and to arrange printing pins at high density, by bonding a cantilevered type **bimorph** vibrator to one end of each of **C - shaped**

actuators having the printing pins...

...CONSTITUTION: When a current is made to flow to a **C - shaped** actuator 10 in such a state that an electric field is applied, the actuator 10 is displaced while **bimorph** vibrators 14, 15 are elastically deformed by electromagnetic force and a printing pin 11 protrudes...

3/3,K/3 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009163887 **Image available**
WPI Acc No: 1992-291328/199235
XRPX Acc No: N92-223010
Fibre-optical switch for automatic communication engineering - has at least two additional optical fibres with polished endfaces similarly situated to main optical fibres
Patent Assignee: RYABOKON D S (RYAB-I)
Inventor: RYABOKON D S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1682952	A1	19911007	SU 4292015	A	19870701	199235	B

Priority Applications (No Type Date): SU 4292015 A 19870701
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1682952	A1		3	G02B-006/00	

...Abstract (Basic): 1) for the magnetic system, e.g. permanent magnet and pole-tips (3,4) forming **C - shaped** magnetic core, **bimorphic piezoelectric** plates (5,6), ferromagnetic plate (7) with shutters (8,9) and optical fibres (10-13). Each **bimorphic piezoelectric** element (5,6) is made in the form of two thin piezoceramic plates, whose opposite...

3/3,K/4 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008177788 **Image available**
WPI Acc No: 1990-064789/199009
Fan for cooling electronic device - comprises C - shaped **thin metal strips secured to** piezoelectric bimorph **element NoAbstract Dwg 1/4**
Patent Assignee: MATSUSHITA ELEC IND CO LTD (MATU)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2019700	A	19900123	JP 88169421	A	19880707	199009	B

Priority Applications (No Type Date): JP 88169421 A 19880707
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2019700	A		4		

... **comprises** C - shaped **thin metal strips secured to** piezoelectric bimorph **element NoAbstract Dwg 1/4**
...Title Terms: **PIEZOELECTRIC ;**

15/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008790017 **Image available**
WPI Acc No: 1991-294032/199140
XRPX Acc No: N91-225084
Compact design of electromagnetic **clutch - has** electromagnet **interacting with pressure ring via flexible bush**
Patent Assignee: BELORUSSIAN POLY (BEPO)
Inventor: LEPESHKO I I; STASKEVICH S G; SYCHEV G D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1606772	A	19901115	SU 4470557	A	19880805	199140	B

Priority Applications (No Type Date): SU 4470557 A 19880805

Compact design of electromagnetic **clutch**...

...**has** electromagnet **interacting with pressure ring via flexible bush**

...Abstract (Basic): Electromechanical clutch incorporates driving, (friction-lined) **driven** and pressure **discs** (1,2,3) interacting with a built-in **electromagnet** . The annular armature (12) interacts with the pressure disc (3) via a flexible **split ring** (18) mounted in the **electromagnet** (11) and ballscrew transmission (4-7...
...Title Terms: **ELECTROMAGNET** ;
?

19/3,K/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

02192367 **Image available**
OPTICAL RECORDING AND REPRODUCING DEVICE

PUB. NO.: 62-109267 [JP 62109267 A]
PUBLISHED: May 20, 1987 (19870520)
INVENTOR(s): TAKIZAWA TERUYUKI
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 60-249227 [JP 85249227]
FILED: November 07, 1985 (19851107)
JOURNAL: Section: P, Section No. 628, Vol. 11, No. 324, Pg. 133, October 22, 1987 (19871022)

ABSTRACT

PURPOSE: To attain uniform accessing operation by providing a **ferromagnetic** piece to a moving base fixed with an optical head and a permanent magnet arranged...

...in a drive coil 5 by flowing a current to the drive coil 5 and **electromagnetic** driving torque is obtained by the interaction with a magnetic field caused in a yoke...
... roller bearing 4 by using magnetic force given from a permanent magnet 10 and the **ferromagnetic** piece 9 fitted to the moving base 3, and moved by using the **electromagnetic** torque to record or reproduce optical information on/from the **driven** optical **disc** 1. In this case, the **ferromagnetic** piece 9 fixed to the moving base 3 and the permanent magnet 10 arranged at the outside of the moving base 3 with an air gap **opposed** to the piece 9 produce magnetic force to always give a prescribed vertical reaction to...

19/3,K/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014901852 **Image available**
WPI Acc No: 2002-722558/200278
Related WPI Acc No: 1997-351255; 1998-087202; 2001-534628; 2002-239021
XRPX Acc No: N02-569770
Information storage system e.g. hard disk drive **has pole tips whose magnetic fields write upon disk media layer with strength oriented perpendicular to disk surface being larger than maximum strength oriented in parallel**
Patent Assignee: CAIN W C (CAIN-I); DEVILLIER M E (DEVI-I); HAMILTON H J (HAMI-I); HEMPSTEAD R D (HEMP-I); IMAI D T (IMAI-I); LATEV D A (LATE-I); PAYNE A P (PAYN-I); ROBERTS D D (ROBE-I)
Inventor: CAIN W C; DEVILLIER M E; HAMILTON H J; HEMPSTEAD R D; IMAI D T; LATEV D A; PAYNE A P; ROBERTS D D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020093761	A1	20020718	US 95577493	A	19951222	200278 B
			US 20016453	A	20011119	

Priority Applications (No Type Date): US 20016453 A 20011119; US 95577493 A 19951222

Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20020093761 A1 21 G11B-005/127 CIP of application US 95577493
CIP of patent US 6320725

Information storage system e.g. hard disk drive **has pole tips whose magnetic fields write upon disk media layer with strength oriented perpendicular...**

Abstract (Basic):
... a microscopic transducer has a conductive coil which is inductively coupled to a core of **ferromagnetic** material shaped as a loop with pole tips (20,22) **separated** by a submicron magnetic gap. A magnetic field from the pole tips writes upon a...
... Information storage system e.g. hard **disk drive** for **electromagnetic** storage and retrieval of information...

...Due to the small **separation** between the pole tips and the media layer, the magnetic field generated by the transducer has a larger perpendicular component, favoring perpendicular recording over longitudinal recording. The head to media **separation** is small enough to allow a significant reduction in the gap size without causing the...

19/3,K/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.

011302607 **Image available**
WPI Acc No: 1997-280512/199725
XRPX Acc No: N97-232455
Tunnel junction device with resistance for high density fixed disk drive **in personal computer - has two** ferromagnetic **electrodes** separated **by insulator tunnel barrier layer,** electromagnetic **energy applied to junction causing change of resistance by ten per cent**
Patent Assignee: MASSACHUSETTS INST TECHNOLOGY (MASI)
Inventor: KINDER L; MESERVEY R H; MOODERA J S; WONG T
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5629922	A	19970513	US 95393083	A	19950222	199725 B
			US 95407761	A	19950321	

Priority Applications (No Type Date): US 95407761 A 19950321; US 95393083 A 19950222
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 5629922 A 17 G11B-009/00 CIP of application US 95393083
Tunnel junction device with resistance for high density fixed disk drive **in personal computer...**

...**has two** ferromagnetic **electrodes** separated **by insulator tunnel barrier layer,** electromagnetic **energy applied to junction causing change of resistance by ten per cent**

...Abstract (Basic): tow electrodes. The electrodes each have a magnetization in respective directions. The two electrodes are **ferromagnetic** , with one electrode having a coercive magnetic field of different magnitude than that of the...

...tunnel barrier layer, or tunnel junction, between the two electrodes. When a small magnitude of **electromagnetic** energy is applied to the junction, at least one of the magnetization directions is reversed...

...power dissipation. Magnitude of effect is consistent with simple model of spin-polarized tunnelling between **ferromagnet** .

...Title Terms: **FERROMAGNETIC** ;

19/3,K/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010865264 **Image available**
WPI Acc No: 1996-362215/199636
Related WPI Acc No: 1994-279133
XRPX Acc No: N96-305371
Magnetic disc drive **assembly with actuator parking facility when power supply is off - has permanent magnet with opposite magnetic poles at its opposing ends with e.g. central bore extending axially through it**
Patent Assignee: XOLOX CORP (XOLO-N)
Inventor: BLEEKE W F
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5541790	A	19960730	US 9358479	A	19930506	199636 B
			US 94295237	A	19940824	

Priority Applications (No Type Date): US 9358479 A 19930506; US 94295237 A 19940824
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5541790	A		12	G11B-005/54	Cont of application US 9358479 Cont of patent US 5343346

Magnetic disc drive **assembly with actuator parking facility when power supply is off**...

...Abstract (Basic): storage device. An actuator assembly moves the head assembly over the data storage device. A **ferromagnetic** strike plate is located on the actuator assembly. A magnetic device magnetically engages the strike...

...a permanent magnet, a casing in which the magnet is positioned to lie, and a **ferromagnetic** core. The latter has a first end adjacent a first magnetic pole of the magnet...

...actuator assembly in place when power to data storage is turned off. Eliminates attraction between **ferromagnetic** portion of actuator and latch assemblies. Eliminates complex and expensive **electromagnetic** components...
...Title Terms: **OPPOSED** ;

19/3,K/5 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010036970 **Image available**
WPI Acc No: 1994-304681/199438

XRPX Acc No: N94-239565
Active electromagnetic **latch for disc actuator - has extension arm on actuator arm which comes close to latch which can be magnetised or demagnetised by opposite polarity currents**
Patent Assignee: QUANTUM CORP (QUAN)
Inventor: CAMPBELL R O; TACKLIND T A
Number of Countries: 010 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 618578	A2	19941005	EP 94104435	A	19940321	199438	B
EP 618578	A3	19950315	EP 94104435	A	19940321	199542	
US 5452162	A	19950919	US 9341564	A	19930402	199543	
			US 94278700	A	19940721		
EP 618578	B1	19980923	EP 94104435	A	19940321	199842	
DE 69413443	E	19981029	DE 613443	A	19940321	199849	
			EP 94104435	A	19940321		

Priority Applications (No Type Date): US 9341564 A 19930402; US 94278700 A 19940721
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 618578	A2	E	10	G11B-021/22	
Designated States (Regional): BE CH DE FR GB IE IT LI NL					
US 5452162	A		9	G11B-005/54	Cont of application US 9341564
EP 618578	B1	E		G11B-021/22	
Designated States (Regional): BE CH DE FR GB IE IT LI NL					
DE 69413443	E			G11B-021/22	Based on patent EP 618578
EP 618578	A3			G11B-021/22	

Active electromagnetic **latch for disc actuator...**

...Abstract (Basic): The **disc drive** includes a latch to retain the actuator arm in its head landing position when power is removed. The **disc drive** has a **disc** (14) rotated by a spindle motor (16). The actuator has a head arm (20) with...
...Abstract (Equivalent): formed of a magnetic material of low magnetic hardness located on the actuator; a core **ferromagnetic** material of medium magnetic hardness mounted relative to the base and surrounded by a coil...
...Title Terms: **ELECTROMAGNET** ;

19/3,K/6 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009885718 **Image available**
WPI Acc No: 1994-165633/199420
XRAM Acc No: C94-076008
XRPX Acc No: N94-130377
Suspended electromagnetic separator **- has magnetising winding contg. W-shaped core with pole-tips bent towards each other forming gap in which projection on rotating disc removes** ferromagnetic **impurities from main material**
Patent Assignee: GIPROMASHUGLEOBOGASHCHENIE DES INST (GIPR-R); LUGAN MECH ENG INST (LUGA-R)
Inventor: NEVZLIN B I; USATYUK V M; ZAGIRNYAK M V
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week

SU 1801593 A1 19930315 SU 4883040 A 19901120 199420 B

Priority Applications (No Type Date): SU 4883040 A 19901120
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
SU 1801593 A1 3 B03C-001/16
Suspended electromagnetic separator - ...

...**pole-tips bent towards each other forming gap in which projection on rotating disc removes** ferromagnetic **impurities from main material**

...Abstract (Basic): Has conveyor-belt feeder (1), **electromagnetic** system, consisting of magnetising windings (8) and W-shaped core (5) with pole-tips (6...

...with working-surfaces bent outwards, and outer one with them bent inwards. Discharge attachment is **disc** (10) **driven** by motor (9) with circular projection (11) in interpole gap, its shape similar to that...

...As conveyor-belt (1) moves in direction of arrow (4), material (2) being sepd. from **ferromagnetic** impurities (3) is fed into working-zone of **separator** . Under effect of magnetic field, created by system (5-8), **ferromagnetic** bodies (3) are removed and drawn into gap between pole-tips (6, 7) and pressed...

...circular projection (11). Disc (10) with projection (11) is turned by motor (9), to remove **ferromagnetic** bodies from working zone to zone where magnetic-field intensity is not sufficient to hold...
...are discharged by gravity. Eccentricity between magnetising windings and disc has value ensuring discharge of **ferromagnetic** material...

...USE/ADVANTAGE - In mining industry, to remove **ferromagnetic** bodies from coal, sand, etc., free-flowing materials, and to concentrates ores in coal and ore-dressing industries, ferrous/non-ferrous metallurgy to **separate** slag, and process sec.-metals. Sepn.-process is made more effective by guaranteeing reliable discharge...
...Title Terms: **ELECTROMAGNET** ;

19/3,K/7 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007658604 **Image available**
WPI Acc No: 1988-292536/198841
XRPX Acc No: N88-222016
Compact three-phase permanent magnet rotary machine - has coils of particular phase located within sector of circular array of ferromagnetic **poles encompassing 2n-1 poles**
Patent Assignee: SYNEKTRON CORP (SYNE-N)
Inventor: KONECNY K F
Number of Countries: 015 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4774428	A	19880927	US 8750754	A	19870515	198841	B
EP 291219	A	19881117	EP 88303993	A	19880503	198846	
JP 63294243	A	19881130	JP 88113742	A	19880512	198903	

Priority Applications (No Type Date): US 8750754 A 19870515
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4774428	A		7		
EP 291219	A	E			

Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

... **has coils of particular phase located within sector of circular array of** ferromagnetic **poles encompassing 2n-1 poles**

...Abstract (Basic): The three-phase permanent magnet rotary electrical machine comprises an armature having a **ferromagnetic** core with 3(2n+1) protruding **ferromagnetic** poles arranged in a circular array **separated** from each other by the same number of slots located interstitially between the **ferromagnetic** poles where n is an integer of 1 or more. A permanent magnet assembly has...

...are mounted on the armature and each winding comprises multiple coils each wound about a **ferromagnetic** pole and occupying slots located on each side of respective pole...

...USE/ADVANTAGE - For computer **disk drive** , fan. A compact three-phase permanent magnet rotary machine having minimal reluctance torque and **electromagnetic** torque ripple and maximum energy efficiency...

...Title Terms: **FERROMAGNETIC** ;

19/3,K/8 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

007268271

WPI Acc No: 1987-265278/198738

XRPX Acc No: N87-198794

Radial pole linear reluctance motor - has armature formed of alternate magnetic and non magnetic laminae plates with each plate having inwardly projecting teeth

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: KARIDIS J P; KAIDIS J P

Number of Countries: 005 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 237848	A	19870923	EP 87102782	A	19870227	198738	B
JP 62233060	A	19871013	JP 86275514	A	19861120	198746	
US 4712027	A	19871208	US 86842527	A	19860321	198751	
EP 237848	B	19920506	EP 87102782	A	19870227	199219	
DE 3778743	G	19920611	DE 3778743	A	19870227	199225	
			EP 87102782	A	19870227		

Priority Applications (No Type Date): US 86842527 A 19860321

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 237848	A	E	17		

Designated States (Regional): DE FR GB

US 4712027	A		14		
EP 237848	B	E	21		

Designated States (Regional): DE FR GB

DE 3778743	G		H02K-041/03	Based on patent EP 237848

...Abstract (Basic): 4) each having six internally radiating poles with peoxy cement bonding layers (8) between alternate **ferromagnetic** silicon iron laminar plates (4) and non-magnetic stainless steel plates (7...

...USE/ADVANTAGE - Printers, plotters, robots, **disc drives** and like mechanisms. In armature assembly, interlaminar cement is applied excessively thick and pressed to...

...Abstract (Equivalent): A linear variable reluctance motor having relatively movable armature and stator members, and **electromagnetic** windings, comprising a first member (1) having a raised double helix tooth pattern (2, 2') of **ferromagnetic** material with outside diameter surfaces forming part of a cylinder, and a second member (3...

...surfaces, said second member consists of a stack of laminar pairs of alternate radial pole **ferromagnetic** laminar plates (4) and nonferromagnetic laminar spacers (7), with an internal channel having an inside...

...thickness substantially equal to one tooth interval, said laminar pole plate and laminar spacer being **separated** by at least one insulating layer (8) to minimise eddy currents, the total thickness of...

...Abstract (Equivalent): The armature assembly and the stator are complementary, and smoothed for sliding contact within the **electromagnetically** active envelope, without other bearings...

...laminations together to nominal total length. Excess epoxy is squeezed out, leaving the laminations evenly **spaced** . Stator and armature may be assembled, or may be prepared with virtual teeth in homogeneous smooth surfaces. The virtual teeth are prepared by **ferromagnetic** modification of selected patterns through laser hardening or through chemical doping. (14pp)

19/3,K/9 (Item 8 from file: 350)

004414433
WPI Acc No: 1985-241311/198539
XRPX Acc No: N85-180418

Items handling unit - has driven **rotary** disc **with grips made of non-magnetic material**

Patent Assignee: ZAUSALIN V F (ZAUS-I)
Inventor: GUSKOV K V
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1143677	A	19850307	SU 3621138	A	19830708	198539	B

Priority Applications (No Type Date): SU 3621138 A 19830708
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1143677	A		3		

... **has** driven **rotary** disc **with grips made of non-magnetic material**

...Abstract (Basic): The device comprises bunker (1) which has one side made of non-magnetic **separating** plate (2) with satellites located on the opposite side. The satellites have permanent magnetic plates (3) and are connected by endless chain transporter (4). The non-magnetic **separating** plate envelops the top drive sprocket (5) and ends as a trough (6...

...The transporter orientating magnetic system comprises **electromagnetic** coil (7), magnetic drive with pole-pieces (8) which are positioned at an angle w...

...USE/ADVANTAGE - For automatic packing of **ferromagnetic** cylindrical items; and can also be used as single item feeder in automated process line...

?

25/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014632885 **Image available**
WPI Acc No: 2002-453589/200248
XRPX Acc No: N02-357687
Microactuator **for hard** disk drive **, controls separation between** end faces **of piezoelectric bimorph expander, by applied electric or magnetic field**
Patent Assignee: DATA STORAGE INST (DATA-N); GUO G (GUOG-I); SIVIDASAN K (SIVI-I)
Inventor: GUOXIAO G; SIVADASAN K; GUO G; SIVIDASAN K
Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020039261	A1	20020404	US 2001826173	A	20010404	200248	B
JP 2002117638	A	20020419	JP 2000377636	A	20001212	200248	
SG 92742	A1	20021119	SG 20005436	A	20000926	200303	

Priority Applications (No Type Date): SG 20005436 A 20000926
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020039261	A1		13	G11B-005/56	
JP 2002117638	A		9	G11B-021/10	
SG 92742	A1			G11B-021/10	

Microactuator **for hard** disk drive **, controls separation between** end faces **of piezoelectric bimorph expander, by applied electric or magnetic field**

Abstract (Basic):
... The **microactuator** (22) comprises a piezoelectric bimorph expander having **end faces** opposing each other. The expander is resilient such that the separation between **end faces** is controlled by applied magnetic or electric field.
... b) Magnetic **disk drive**
...

... **Microactuator** for moving read/write head relative to mounting region of head suspension assembly (claimed) of magnetic **disk drive** (claimed...

...The figure shows a perspective arrangement of the **microactuator** .
...

... **Microactuator** (22
International Patent Class (Main): **G11B-005/56** ...
... **G11B-021/10**
International Patent Class (Additional): **G11B-005/596** ...

... **G11B-021/08** ...

... **G11B-021/20** ...

... **G11B-021/21** ...

... **G11B-021/24** ...

... **H02N-002/00**

31/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013936200 **Image available**
WPI Acc No: 2001-420414/200145
XRPX Acc No: N01-311461
Electromagnetic **wave shielding gasket for hard** disk drive , **has** C - shaped **electroconductive bar which electrically connects cover and metal substrate**
Patent Assignee: KOKOKU INTECH KK (KOKO-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2000299586	A	20001024	JP 99104096	A	19990412	200145	B

Priority Applications (No Type Date): JP 99104096 A 19990412
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000299586	A		3	H05K-009/00	

Electromagnetic **wave shielding gasket for hard** disk drive , **has** C - shaped **electroconductive bar which electrically connects cover and metal substrate**
Abstract (Basic):
... An insulation block (3) is positioned between cover (1) and metal substrate (2). A **C - shaped** electroconductive bar (5) electrically connects the cover and substrate.
... For **electromagnetic** wave shielding in hard **disk drive** .
...
...High shielding property is achieved corresponding to the **electromagnetic** waves
Title Terms: **ELECTROMAGNET** ;

31/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012857443 **Image available**
WPI Acc No: 2000-029276/200003
XRAM Acc No: C00-007770
XRPX Acc No: N00-022300
Core structure for magneto resistance (MR) head, giant magneto resistance (GMR) head used in hard disk drive **- includes** C - shaped **core with soft magnetic film of high saturation magnetic flux density provided near gap between core and magnetic core**
Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 11296808	A	19991029	JP 9893305	A	19980406	200003	B

Priority Applications (No Type Date): JP 9893305 A 19980406
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11296808	A		9	G11B-005/265	

Core structure for magneto resistance (MR) head, giant magneto resistance

(GMR) head used in hard disk drive - ...
...**includes** C - shaped **core with soft magnetic film of high saturation magnetic flux density provided near gap between**

...Abstract (Basic): NOVELTY - A magnetic core (12) consisting of a soft magnetic film is arranged near a **C - shaped** core (52). The core (52) comprises a soft magnetic film (53) with high saturation magnetic...

...USE - For magnetic head e.g. MR head, GMR head used in hard **disk drive** .
...

...track width is controlled effectively. Eddy current is suppressed. Offers high recording density by forming **ferromagnetic** film of high saturation magnetic flux density near the gap. Cost is reduced if an...

...DRAWING - The figure illustrates the perspective view of the magnetic head. (12) Magnetic core; (52) **C - shaped** core; (53) Magnetic film; (73) Gap

31/3,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012653957 **Image available**
WPI Acc No: 1999-460062/199939
XRPX Acc No: N99-344228
Construction of compact disc drive **motor assembly**
Patent Assignee: SUNONWEALTH ELECTRIC MACHINE IND CO LTD (SUNO-N)
Inventor: HORNG A
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 29903729	U1	19990527	DE 99U2003729	U	19990302	199939	B
GB 2347551	A	20000906	GB 994690	A	19990301	200046	N

Priority Applications (No Type Date): DE 99U2003729 U 19990302; GB 994690 A 19990301
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29903729	U1		20	G11B-019/20	
GB 2347551	A			G11B-017/02	

Construction of compact disc drive **motor assembly**
Abstract (Basic):
... 23). The rotor has a magnetic ring that interacts with the stator coil to generate **electromagnetic** induction. The shaft has a groove that is used to receive a **C shaped** retaining washer. At the other end is the locating spigot (24) for the disc. The...
... Compact **disc drives** .

31/3,K/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007602865
WPI Acc No: 1988-236797/198834

XRPX Acc No: N88-179916

Magnetoresistive head of exchange-biassing antiferromagnetic material - has central single-domain sense region outside which anti- ferromagnetic **alloy is exchange-coupled to magneto-resistive strip**

Patent Assignee: SEAGATE TECHNOLOGY INT (SEAG-N); MAGNETIC PERIPHERALS INC (MPER); MOWRY G S (MOWR-I)

Inventor: MOWRY G S

Number of Countries: 007 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 279537	A	19880824	EP 88300685	A	19880127	198834	B
AU 8811364	A	19880818				198840	
JP 63205584	A	19880825	JP 87260743	A	19871015	198840	
US 4891725	A	19900102	US 88221479	A	19880719	199009	
US 4967298	A	19901030	US 89414941	A	19890929	199046	
CA 1299284	C	19920421	CA 550209	A	19871026	199221	
EP 279537	B1	19931229	EP 88300685	A	19880127	199401	
DE 3886562	G	19940210	DE 3886562	A	19880127	199407	
			EP 88300685	A	19880127		

Priority Applications (No Type Date): US 8715203 A 19870217; US 88152783 A 19880205; US 88152792 A 19880205; US 89414941 A 19890929

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 279537	A	E	15		
Designated States (Regional): DE FR GB					
US 4891725	A		13		
EP 279537	B1	E	15	G11B-005/39	
Designated States (Regional): DE FR GB					
DE 3886562	G			G11B-005/39	Based on patent EP 279537
CA 1299284	C			G11B-005/39	

... **has central single-domain s**ense region outside which anti-ferromagnetic **alloy is exchange-coupled to magneto-resistive strip**

...Abstract (Basic): USE/ADVANTAGE - E.g. for magnetic **disc drives** , edge and end domains are eliminated, stable central single-domain sense current region is provided...

...Abstract (Equivalent): shield with the sense strip located in the second gap. USE - E.g. for magnetic **disk drive** .
(...

...having a stable single-domain central region employing exchanged-biased ends, the strip has a **C shape** with a relatively narrow central region and lateral ends having upwardly extending legs (26,28

...Title Terms: **FERROMAGNETIC** ;

31/3,K/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

007181522

WPI Acc No: 1987-178531/198726

XRPX Acc No: N87-133952

Electromagnetic **precision rotary drive - has armature strip with zigzag form that interacts with oscillating pole shoes**

Patent Assignee: MESSERSCHMITT-BOLKOW-BLO (MESR)

Inventor: SODEIKAT D

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3544930	A	19870625	DE 3544930	A	19851219	198726	B
JP 62189963	A	19870819	JP 86301845	A	19861219	198739	
FR 2595020	A	19870828				198745	
US 4793199	A	19881227	US 86941397	A	19861215	198903	
DE 3544930	C	19900523				199021	

Priority Applications (No Type Date): DE 3544930 A 19851219
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3544930	A		6		
US 4793199	A		6		

Electromagnetic **precision rotary drive**...

...Abstract (Basic): A precision **electromagnetic** rotary drive has a rotor (1) that has a ring shaped region (4) that forms...

...supports permanent magnets on either side of the armature strip. As the arm oscillates the **electromagnetic** field causes the rotor to increment through an angle...

...Abstract (Equivalent): The **electromagnetic** precision setting drive for a rotor has an armature in the form of a closed...

...radial edges. The edge of the rotor fits between the opposing arms (12) of a **C - shaped** magnetic circuit, with a defined air-gap between each arm (12) and the armature band...

...Abstract (Equivalent): USE/ADVANTAGE - E.m. precision rotary **drive** for **disc** -shaped rotor. Simple design and operation. (6pp)g

Title Terms: **ELECTROMAGNET** ;

31/3,K/6 (Item 6 from file: 350)

001921051
WPI Acc No: 1978-F0306A/197826

Asymmetric non-magnetic parts magnetic sorting system - uses alternating magnetic field which directs parts to different conveyors

Patent Assignee: AS LATV MAGNET HYDRODYN (ALMA-R); AS LATV PHYS INST (ALPG); MAGNET HYDRODYN DES (MAGN-R)
Inventor: DAVYDENKO E P; KANAEV A S; ZOMMER J A
Number of Countries: 005 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 2658000	A	19780622				197826	B
FR 2377239	A	19780915				197842	
CH 610859	A	19790515				197923	
GB 1548410	A	19790711				197928	
DE 2658000	C	19821216				198251	
IT 1065737	B	19850304				198524	

Priority Applications (No Type Date): DE 2658000 A 19761221

...Abstract (Basic): the discs (7) are asymmetric due to the different conductivities of the metals. Vibrators (9) **drive** the **discs** (7) along the inlet track (6), and along an outlet track (8) with two paths separated by a partition. The discs are aligned by passing between the poles of a ' **C** ' **shaped** . **electromagnet** (5).

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☐ 1. Document ID: NN9410563

L1: Entry 1 of 3 File: TDBD Oct 1, 1994

TDB-ACC-NO: NN9410563

DISCLOSURE TITLE: Large-Scale Linearization Circuit for Electrostatic Motors

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc

☐ 2. Document ID: NN9409195

L1: Entry 2 of 3 File: TDBD Sep 1, 1994

TDB-ACC-NO: NN9409195

DISCLOSURE TITLE: Batch-Fabricated Magnetic Microactuators

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc

☐ 3. Document ID: NN9408401

L1: Entry 3 of 3 File: TDBD Aug 1, 1994

TDB-ACC-NO: NN9408401

DISCLOSURE TITLE: Shock-Resistant Rotary Microactuator for Fine Positioning of Recording Heads

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc

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A THOMSON COMPANY

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"microactuators (same) disk drives".
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☐ Horsley DA; Cohn MB; Singh A; Horowitz R; et al.
Design and fabrication of an angular microactuator for
JOURNAL OF MICROELECTROMECHANICAL SY

☐ Tang WL; Temesvary V; Yao JJ; Tai YC; et al.
Silicon **microactuators** for computer **disk drives**
JAPANESE JOURNAL OF APPLIED PHYSICS PART 1-REGULAR PAPERS SHORT NOTES & REVIEW PAPERS 35 (1B): 350-356 JAN 1996

☐ TEMESVARY V; WU SY; HSIEH WH; TAI YC; et al.
DESIGN, FABRICATION, AND TESTING OF SILICON MICROGIMBALS FOR SUPER-COMPACT RIGID DISK DRIVES
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS 4 (1): 18-27 MAR 1995

☐ TANG WL; TEMESVARY V; MILLER R; DESAI A; et al.
SILICON MICROMACHINED ELECTROMAGNETIC **MICROACTUATORS** FOR RIGID **DISK DRIVES**
IEEE TRANSACTIONS ON MAGNETICS 31 (6): 2964-2966 Part 1 NOV 1995

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1 **Numerical simulation of air flow in a near-HDD configuration**
Yip, T.H.; Suriadi, M.A.; Ong, E.H.; Guo, G.X.;
Magnetic Recording Conference, 2002. Digest of the Asia-Pacific , 2002
Page(s): TU-P-01-01 -TU-P-01-02

[Abstract] [PDF Full-Text (214 KB)] **IEEE CNF**

2 **A novel sliding mode servo controller for hard disk drives**
Zhou, J.; Wang, Y.; Zhou, R.; Guo, G.;
Intelligent Control and Automation, 2002. Proceedings of the 4th World Congress on , Volume:
Page(s): 3272 -3277 vol.4

[Abstract] [PDF Full-Text (624 KB)] **IEEE CNF**

3 **Optimal control design for hard disk drive servosystems**
Guo, G.; Chen, R.; Low, T.S.; Wang, Y.;
Control Theory and Applications, IEE Proceedings- , Volume: 149 Issue: 3 , May 2002
Page(s): 237 -242

[Abstract] [PDF Full-Text (639 KB)] **IEE JNL**

4 **Robust nonlinear co-ordinated excitation and TCSC control for power systems**
Wang, Y.; Tan, Y.L.; Guo, G.;
Generation, Transmission and Distribution, IEE Proceedings- , Volume: 149 Issue: 3 , May 200
Page(s): 367 -372

[Abstract] [PDF Full-Text (578 KB)] **IEE JNL**

5 **Improved proximate time-optimal sliding-mode control of hard disk drives**
Zhou, J.; Zhou, R.; Wang, Y.; Guo, G.;
Control Theory and Applications, IEE Proceedings- , Volume: 148 Issue: 6 , Nov 2001
Page(s): 516 -522

[Abstract] [PDF Full-Text (508 KB)] **IEE JNL**

6 **A low-turbulence-high-bandwidth actuator for 3.5" HDDS**
Ong, E.H.; He, Z.; Chen, R.; Guo, G.; Qian, H.;
Magnetics Conference, 2000. INTERMAG 2000 Digest of Technical Papers. 2000 IEEE Interna

Page(s): 263 -263

[Abstract] [PDF Full-Text (76 KB)] **IEEE CNF**

7 **Discrete-time sliding mode proximate time optimal seek control of hard disk drives**
Zhang, D.Q.; Guo, G.X.;
Control Theory and Applications, IEE Proceedings- , Volume: 147 Issue: 4 , Jul 2000
Page(s): 440 -446

[Abstract] [PDF Full-Text (496 KB)] **IEE JNL**

8 **Decentralised control of multimachine power systems with guaranteed performance**
Xie, S.; Xie, L.; Wang, Y.; Guo, G.;
Control Theory and Applications, IEE Proceedings- , Volume: 147 Issue: 3 , May 2000
Page(s): 355 -365

[Abstract] [PDF Full-Text (648 KB)] **IEE JNL**

9 **Robust nonlinear control for a power system with multiple machines connected to the co terminal**
Zhang, L.; Wang, Y.; Guo, G.; Hill, D.J.;
Electric Power Engineering, 1999. PowerTech Budapest 99. International Conference on , 1999
Page(s): 236
[Abstract] [PDF Full-Text (88 KB)] **IEEE CNF**

10 **Coordination of multiple controllers using robust nonlinear control**
Tan, Y.L.; Wang, Y.; Zhang, L.; Guo, G.;
Electric Power Engineering, 1999. PowerTech Budapest 99. International Conference on , 1999
Page(s): 74
[Abstract] [PDF Full-Text (76 KB)] **IEEE CNF**

11 **Element-Specific Magnetic Anisotropy Determined by Transverse Magnetic Circular X Dichroism**
Durr, H.A.; Guo, G.Y.; van der Laan, G.; Lee, J.; Lauhoff, G.; Bland, J.A.C.;
MMM-Intermag Conference, 1998. Abstracts., The 7th Joint , 6-9 Jan 1998
Page(s): 364 -364

[Abstract] [PDF Full-Text (120 KB)] **IEEE CNF**

12 **Robust nonlinear controller for power system transient stability enhancement with volt regulation**
Guo, G.; Wang, Y.; Lim, K.-Y.; Gao, L.;
Generation, Transmission and Distribution, IEE Proceedings- , Volume: 143 Issue: 5 , Sep 1996
Page(s): 407 -412

[Abstract] [PDF Full-Text (492 KB)] **IEE JNL**

13 **Magneto-optical properties of transition metal systems in the visible and X-ray regime**
Ebert, H.; Guo, G.-Y.; Schutz, G.;
Magnetics, IEEE Transactions on , Volume: 31 Issue: 6 , Nov 1995
Page(s): 3301 -3306

[Abstract] [PDF Full-Text (644 KB)] **IEEE JNL**

14 **Optimal distribution of fingertip force functions in dynamic grasping**
Guo, G.; Gruver, W.A.;

Robotics and Automation, 1993. Proceedings., 1993 IEEE International Conference on , 2-6 Ma
Page(s): 971 -977 vol.3

[Abstract] [PDF Full-Text (352 KB)] **IEEE CNF**

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15 **A note about the correction cycle of high radix Booth's multiplication**
Guo, G.; Ashtijou, M.;
Computer Design: VLSI in Computers and Processors, 1993. ICCD '93. Proceedings., 1993 IEE International Conference on , 3-6 Oct 1993
Page(s): 268 -271

[Abstract] [PDF Full-Text (316 KB)] **IEEE CNF**

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16 **The influence of the stability of the capacitance of compressed-gas capacitors by the con the electric field**
Guo, G.; Zhao, B.;
Instrumentation and Measurement, IEEE Transactions on , Volume: 42 Issue: 1 , Feb 1993
Page(s): 62 -64

[Abstract] [PDF Full-Text (236 KB)] **IEEE JNL**

17 **A concentric robot gripper with one-degree-of-freedom for cylindrical workpieces**
Guo, G.; Qian, X.; Gruver, W.A.;
Systems, Man and Cybernetics, 1992., IEEE International Conference on , 18-21 Oct 1992
Page(s): 1133 -1135 vol.2

[Abstract] [PDF Full-Text (200 KB)] **IEEE CNF**

18 **Fiber optic based object recognition with multifingered robot hands**
Katz, K.; Guo, G.; Gruver, W.A.;
Industrial Electronics, Control, Instrumentation, and Automation, 1992. 'Power Electronics and Control'., Proceedings of the 1992 International Conference on , 9-13 Nov 1992
Page(s): 762 -766 vol.2

[Abstract] [PDF Full-Text (296 KB)] **IEEE CNF**

19 **Grasp planning for multifingered robot hands**
Guo, G.; Gruver, W.A.; Jin, K.;
Robotics and Automation, 1992. Proceedings., 1992 IEEE International Conference on , 12-14 M
Page(s): 2284 -2289 vol.3

[Abstract] [PDF Full-Text (472 KB)] **IEEE CNF**

20 **A new design for a dexterous robotic hand mechanism**
Guo, G.; Gruver, W.A.; Qian, X.;
IEEE Control Systems Magazine , Volume: 12 Issue: 4 , Aug 1992
Page(s): 35 -38

[Abstract] [PDF Full-Text (364 KB)] **IEEE JNL**

21 **Optimal grasps for planar multifingered robotic hands**
Guo, G.; Gruver, W.A.; Zhang, Q.;
Systems, Man and Cybernetics, IEEE Transactions on , Volume: 22 Issue: 1 , Jan/Feb 1992
Page(s): 193 -198

[Abstract] [PDF Full-Text (452 KB)] **IEEE JNL**

22 **Control of dynamic grasping systems using neural network approximation**
Guo, G.; Gruver, W.A.; Jin, K.;
Intelligent Control, 1991., Proceedings of the 1991 IEEE International Symposium on , 13-15 A
Page(s): 196 -202

[Abstract] [PDF Full-Text (392 KB)] **IEEE CNF**

23 **A robotic hand mechanism with rotating fingertips and motor-tendon actuation**
Guo, G.; Gruver, W.A.; Qian, X.;
Systems, Man, and Cybernetics, 1991. 'Decision Aiding for Complex Systems, Conference Proc
1991 IEEE International Conference on , 13-16 Oct 1991
Page(s): 1023 -1028 vol.2

[Abstract] [PDF Full-Text (408 KB)] **IEEE CNF**

24 **Fingertip force planning for multifingered robot hands**
Guo, G.; Gruver, W.A.;
Robotics and Automation, 1991. Proceedings., 1991 IEEE International Conference on , 9-11 A
Page(s): 665 -672 vol.1

[Abstract] [PDF Full-Text (520 KB)] **IEEE CNF**

25 **Fuzzy algorithm for error-correcting estimation of radar signals**
Guo, G.; Shen, Q.;
Electronics Letters , Volume: 26 Issue: 16 , 2 Aug 1990
Page(s): 1321 -1323

[Abstract] [PDF Full-Text (224 KB)] **IEE JNL**

26 **A knowledge-based reasoning system for ship identification**
Che, X.M.; Guo, G.; Lu, C.M.;
Aerospace and Electronics Conference, 1988. NAECON 1988., Proceedings of the IEEE 1988 N
23-27 May 1988
Page(s): 1193 -1199 vol.4

[Abstract] [PDF Full-Text (452 KB)] **IEEE CNF**

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